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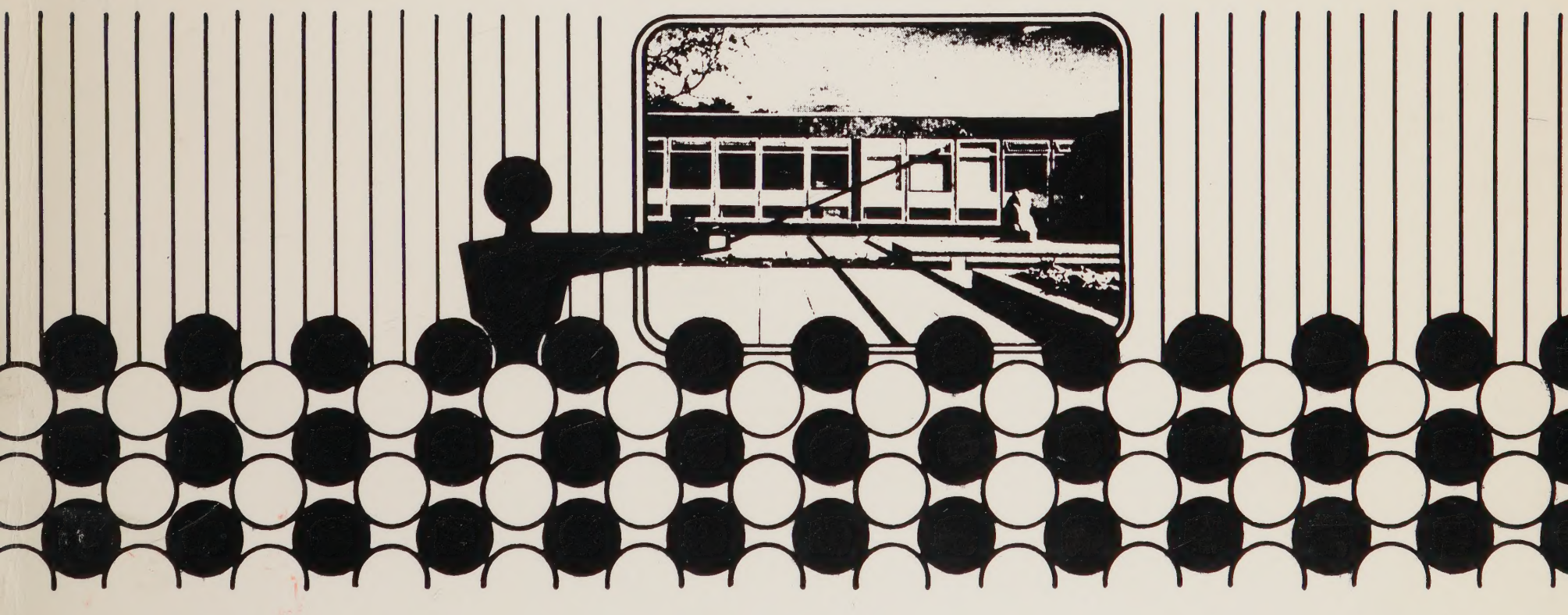

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PREFACE

Major conferences at the Scottish Hospital Centre have continued to attract a wide range of Health Service personnel from throughout Scotland and, as in previous years, detailed reports of seven sessions have been brought together in one volume. Some 40 speakers have contributed to a variety of topics which were selected either for their immediate relevance to developments in the Hospital Service or as a result of particular research activities undertaken at the Centre.

It is hoped that the collection will make a valuable contribution to the available information on the subjects covered.

May 1972

J. R. Y. MUTCH
Secretary

CHAIRMEN

Chairmen of Conferences were drawn from the Council of Management of the Scottish Hospital Centre

Ex-Provost R H Banks	Provost D McL McIntosh (twice)
Lady Baird	Dame Muriel Powell
Sir Ronald Johnson	Mr G G Savage

MAIN SPEAKERS

Control and administration of drugs - January 1971

Mr A Roxburgh, Group Chief Pharmacist, Glasgow Royal Infirmary.
Dr D C Moir, Drug Monitoring Section, Aberdeen Royal Infirmary.
Mr C W Barrett, Chief Pharmacist, The London Hospital.
Miss E Campbell, Work Study Officer, South-Eastern Regional Hospital Board.
Miss F Carrick, Ward Sister, Glasgow Royal Infirmary.
Dr H C Fowlie, Group Physician Superintendent, Royal Dundee Liff Hospital.
Professor J Crooks, Department of Pharmacology and Therapeutics, University of Dundee.

Nurse staffing: the 40 hour week and duty rotas - October 1971.

Dame Muriel Powell, Chief Nursing Officer, Scottish Home and Health Department.
Miss D Norton, Nursing Officer, Scottish Hospital Advisory Service.
Mr J S Sharpe, Nursing Officer, Scottish Hospital Advisory Service.
Miss J Mackenzie, Ward Sister, Western General Hospital, Edinburgh.
Miss M Johnson, Student Nurse, Western General Hospital, Edinburgh.
Mr R Morrison, Principal Nursing Officer, Craig Dunain Hospital, Inverness.
Miss B Byrne, Chief Nursing Officer, Glasgow South Western Hospitals.
Mr A H M Mitchell, Assistant Secretary, Scottish Home and Health Department.

Ambulance services - November 1971

Mr D J Buckley, Secretary and Treasurer, Scottish Ambulance Service.
Dr G W Balfour, General Medical Practitioner, Jedburgh.
Miss M Blackwood, Chairman, Disablement Income Group.
Miss H C Griffin, Departmental Sister, Western General Hospital, Edinburgh.
Dr C P Lowther, Consultant Physician in Geriatric Medicine, Eastern General Hospital, Edinburgh.
Mrs E M Gregor, National Organiser, Hospital Car Service, Women's Royal Voluntary Service.
Dr J K Anderson, Group Medical Superintendent, Glasgow Royal Infirmary.

Hospital supplies - December 1971

Mr George Robertson, Assistant Secretary, Scottish Home and Health Department.
Mr A H McCall, Group Secretary and Treasurer, County and City of Perth General Hospitals.

The role, design and staffing of a spinal paralysis service - January 1972

Mr P Harris, Deputy Director, Department of Surgical Neurology, Edinburgh.
Mr W G Kerr, Consultant Surgeon, Spinal Injuries Unit, Edenhall Hospital, Musselburgh.
Dr J Lorber, Consultant Paediatrician, Children's Hospital, Sheffield.
Mr A G Hardy, Consultant Surgeon, Spinal Injuries Unit, Lodge Moor Hospital, Sheffield.
Dr J Mair, Director of Social Work, Corporation of Edinburgh.

Accommodation for the mentally defective - February 1972

Mr A W M Heggie, Principal, Scottish Home and Health Department.
Dr R C MacGillivray, Group Physician Superintendent, Lennox Castle and Associated Hospitals.
Dr A M Anderson, Group Medical Superintendent, Edinburgh Northern Hospitals.
Miss J Mander, Nursing Officer, Scottish Hospital Centre.
Mr A N Simpson, Architect, Scottish Hospital Centre.

Hospital costing - March 1972

Mr A D Robertson, Principal, Scottish Home and Health Department.
Mr H J Pilling, Treasurer, Eastern Regional Hospital Board.
Dr J F Kirk, Group Medical Superintendent, Dumfries, Galloway and Crichton Royal Hospitals.
Miss O Hulme, Principal Nursing Officer, Royal Hospital for Sick Children, Glasgow.
Mr D W Blackwood, Chief Pharmacist, Stobhill Hospital, Glasgow.
Mr G G Savage, Group Secretary and Treasurer, Royal Infirmary of Edinburgh and Associated Hospitals.

Control and administration of drugs in hospitals

Meeting at the Scottish Hospital Centre on Friday, 29th January, 1971.

This conference examined various systems of drug administration and control practised in different types of hospital in Scotland and elsewhere. In particular, the developments which had taken place over the last few years in the system adopted in the Aberdeen hospitals, were reviewed.

MR. D. McL. McINTOSH took the Chair.

MR. A. ROXBURGH, Group Chief Pharmacist, Glasgow Royal Infirmary noted that in September, 1970, the Scottish Home and Health Department had appointed a committee to consider the control of drugs in Scottish hospitals with a remit "to study the possible application to Scotland of a report on 'Measures for Controlling Drugs on the Wards' presented to the Central Health Services Council by the Standing Medical, Nursing and Pharmaceutical Committees". Although the suggestion was that in a period of up to two months the group should consider the application of the above report to Scottish hospitals and make recommendations, it became apparent that this approach would be inadequate and that the subject of control of drugs in Scottish hospitals should be looked at in some depth. There were various reasons for this view, including the fact that some of the procedures discussed in the report had been the subject of continuous study and experimentation and ideas were constantly changing and advancing; also it was felt that there might be problems peculiar to Scotland and the special problems of control of drugs in psychiatric hospitals, while mentioned in the report, required fuller study.

The early meetings of the group had been concerned with a general review of the position and an attempt to identify the problems. It had been agreed that detailed consideration of the various aspects of drug control might usefully be considered under the headings of physical control, control of prescribing and control of administration. At this stage of the group's deliberations it was felt that the views of the medical, nursing and pharmaceutical staff in hospitals on these aspects of drug control would be helpful, and this had therefore resulted in the present conference being held at the Scottish Hospital Centre.

In dealing with physical control, points which had to be borne in mind included the legal requirements for the storage, issue and administration of drugs, the stock levels which should be maintained on the wards, the types of cupboards or trolleys which should be used, and the arrangements for day and night and emergency supplies.

With regard to the control of prescribing two very important facts had to be borne in mind - the form of prescription and recording sheets and the place and usefulness of ward pharmacist schemes. In the case of prescription and recording sheets, Mr. Roxburgh indicated that the group would like to co-operate with the committee which was looking at the whole question of medical records. Also although the group were intensely interested in ward pharmacist schemes, in practice difficulties arose in Scotland due to geographical factors and the shortage of pharmacists in the hospital service.

Points which had to be borne in mind when the control of administration was considered included the methods of recording, the grade of nurse who should be administering or recording the dose, the special problems of administration to ambulant patients and to psychiatric patients when working outside the hospital or on weekend leave, the question of drug packaging and the problem of additives to intravenous fluids.
Mr. Roxburgh noted that although the problems were considerable and opinions on their solution would vary, every endeavour should be made to achieve a large degree of uniformity in methods of control and this always with the one object of the welfare of the patient in mind.

DR. D.C. MOIR of the Drug Monitoring Section, Aberdeen Royal Infirmary, spoke on the system of documenting the drugs prescribed in hospitals which was introduced to the Aberdeen General Hospitals Group in 1964. She emphasised at the outset that it was not the Aberdeen system but simply the way in which hospital staff in Aberdeen had implemented the recommendations of the 1958 Aitken Report* which were primarily aimed at reducing errors of transcription. In interpreting the principles laid down in the report it was agreed that, save in exceptional circumstances, no drug was to be administered without a written prescription and no exceptions were to be made even for those drugs, such as aperients, mild analgesics and alkalis, which traditionally were given by nursing staff. The signed prescription was to be recorded on a standard form which would also be used as a medicine list. Different sections were to be devoted to drugs given regularly and on one occasion only, and also for drugs given parenterally and by all other routes. Further, all the prescription sheets were to be kept together in one folder for the convenience of nurses. No abbreviations were to be used since they were a ready source of error and a prescription sheet should be designed so that actual times of administration could be indicated and timing abbreviations avoided. Special provision should be made for drugs with prescribing problems such as insulin and anticoagulants and a standard method of administration should be adopted. A standard form of prescribing incorporating these principles was therefore devised and introduced to the hospital in 1964 and it undoubtedly increased the safety of drug handling procedures in the ward situation.

Although the accurate and legible recording of prescriptions increased the patients' chance of receiving the correct drug, it did not however provide an assurance or even an indication that the drug had been administered. Direct observation was of course the only certain method of detecting omissions and errors in drug administration, but Dr. Moir suggested that this was impracticable as a routine procedure and certainly inappropriate with the present shortage of nursing staff. The need therefore emerged for a rapid, simple and accurate method of recording drug administration and this was met by the preparation of a recording sheet introduced in 1966. This form, which proved to be simple and economic in the time needed for completion, made it possible to determine the accuracy with which the administration of the prescribed drugs was recorded by comparing the number of doses prescribed with the number of doses recorded.

Although both the prescription and recording sheets were only introduced to the hospital after extensive pilot studies, Dr. Moir indicated that it was important to ensure that these documents remained satisfactory in normal working conditions and this had led to the system being re-evaluated twice during the last five years. An important point in the design of the prescription sheet which was investigated in the evaluations

* Ministry of Health. Central health services council. Control of dangerous drugs and poisons in hospitals: report of a joint sub-committee /chairman: Miss J.K. Aitken/. London. H.M.S.O., 1958.

was that one sheet should accommodate all prescriptions for 95% of hospital patients. From the first evaluation using a one in ten sample of the prescription sheets of all patients discharged from medical, surgical, gynaecological and orthopaedic wards over three consecutive six-month periods, it emerged that one prescription sheet proved to be adequate for at least 95% of all admissions in the surgical, gynaecological and orthopaedic wards. From the second evaluation, which was carried out using the records of all patients discharged from the entire hospital group over a period of two months, one prescription sheet again proved adequate for wards in the same disciplines. In the medical situation the sheet proved to be adequate for nine out of every ten medical admissions and a detailed analysis of the lines used by the 9% of medical admissions requiring a second sheet revealed that extra lines were required in all but the parenteral regular section of the prescription sheet. It was concluded therefore that the format of the present prescription sheet was optimal and a redistribution of the lines would not answer the problem. With the adoption by the printing industry of international paper sizes however it was likely that the prescription sheet would be produced on A4 paper and using the figures obtained in the second evaluation it would be possible to allocate space to provide more lines in each section and thus provide a sheet adequate for 99% of all admissions to hospital and 97% of all medical admissions.

From a further evaluation to ascertain the quality of prescribing it emerged that doctors in medical, gynaecological and orthopaedic wards printed drug names in at least 94% of prescriptions while those in surgical and other specialty wards printed in approximately 80% of cases. Although the use of approved drug names was encouraged, the system in itself did not make the use of approved names obligatory and in general they were used on about 40% of occasions. In general the overall standard of prescribing continued to be satisfactory and had in fact improved since 1965.

As recognised by the Aitken Report, in certain circumstances, such as the treatment of diabetes mellitus, special prescribing facilities were required and it had been found necessary therefore to design four supplementary sheets. These were: (1) a prescription sheet for fluids and drugs added to fluids, (2) an anticoagulant prescription sheet, (3) a diabetic prescription sheet and (4) a topical application prescription sheet for use in dermatological units. Experiments in document design allied to the operational procedures involved in the handling of these more specialised drugs was therefore undertaken for each of the supplementary forms. Following a pilot study and further evaluations, supplementary charts were devised and these were now in general use in the hospital group. On the basis of five years experience of the scheme in the hospital group, Dr. Moir indicated that there was a definite need for these supplementary sheets, and, in order to ensure that as far as possible the patient received the therapy which the doctor intended, it was of vital importance to standardise all the documentation and procedures involved in the prescription and administration of all forms of drug therapy in hospitals.

A sheet on which the doctor prescribed the recommended drug therapy for patients about to be discharged had also been in general use since 1968. The form was similar to that for in-patient prescribing although it was produced in triplicate, the top copy being sent to the general practitioner informing him of the patient's discharge and the recommended drug therapy, the second acting as the requisition to the hospital pharmacy who supplied the patients with enough drugs for the first three days following discharge and the third being filed in the case records.

Although the provision of carefully designed adequately evaluated documents would encourage, but not automatically ensure accuracy in the prescribing or subsequent recording of drug administration, it was essential in the interests of patients' safety that all members of the staff should receive adequate training in the system. This included the issuing of a booklet containing detailed recommendations to all trained medical and nursing staff with supplementary verbal instruction given by the medical superintendent and chief pharmacist. The ultimate responsibility for administering the majority of drugs however lay mainly with the nursing staff and it was therefore vital that student nurses should also receive adequate training in the procedures. The system was therefore introduced at an early stage of nurse training and later practical training in the administration of drugs was given by ward sisters and clinical instructors. A linear programme used in conjunction with specimen prescription and recording sheets was drafted and this was now incorporated in the first year curriculum of students in training.

The production of the prescription sheet also permitted a fresh approach to distribution methods and it had proved possible to devise a system whereby pharmacists, visiting the ward daily, used the original prescription record to supply drugs for patients at ward level. The pharmacist also assumed control of ward stocks and this resulted in considerable saving of nursing time. Closer liaison between medical and nursing and pharmacy staff was facilitated and the pharmacist's expert knowledge of drug supply at ward level was used more effectively.

It was noted, however, that if a recording system was to be really successful, it was important to show those completing the record forms that the information being recorded was fully utilised and an attempt had therefore been made in Aberdeen to recover simple but useful information from the prescription and recording sheets. Items of information which were collected routinely included data on whether the prescription and recording sheets were filed in the case records of patients discharged from hospital, whether all records were complete, and information on the accuracy of recording drug administration and on the drugs prescribed for all patients admitted to hospital. This last item made it possible to compare the prescribing habits of the various clinical teams in addition to identifying for the purpose of drug monitoring patients receiving specific drugs. Although it seemed likely that ten years ago hospital staff might have resented such a feed-back of information which could be interpreted as reflecting on their performance, the Aberdeen experience had suggested that the climate was now right for making available such information to medical and nursing staff.

In conclusion Dr. Moir noted that, as these records had attained a high standard of legibility, it had also proved possible to collect systematically information about the drugs prescribed and administered in hospital which could be used to increase hospital efficiency and improve patient care. The active participation and co-operation of members of the hospital staff had contributed in no small way to the success of the development.

MR. C.W. BARRETT, Chief Pharmacist, The London Hospital, spoke on the ward pharmacy service which had been developed in the London Hospital and the pharmacist's contribution to the control and administration of drugs.

He outlined his views on the role of the pharmacist as being responsible for buying drugs of the best quality, ensuring their safe and correct storage at all locations in the hospital, monitoring all prescription sheets for accuracy, collecting and disseminating information on drugs, designing a satisfactory system to ensure ready availability, manufacturing drugs in certain situations and becoming more involved in the development of drugs and more knowledgeable about their effects. In a situation with limited resources he considered that it was desirable that monitoring of prescriptions should take precedence in hospital pharmacies over the manufacture of drugs.

The ward pharmacy system by which a supply of stock drugs were made available to each ward was outlined. The nurse's requisition sheet for ward stock drugs listed 110 items which were most likely to be required during any week in the London Hospital. This sheet, which was contained in a plastic folder, included a note on when drugs should be ordered, when they would be delivered and which drugs would be topped up. The nurse was saved the effort of specifying each drug since a note of the maximum quantities desirable was included and all drugs were supplied in standard units. Individual requirements of particular wards were recorded on a supplementary sheet. Under this system it was possible to pre-pack all drugs in the pharmacy and, by maintaining a note of the stock held on each ward, a greater measure of control could be exercised.

Emergency drugs (except those required for cardiac arrest) were kept in a specially designed sealed box on each unit; when the seal was broken the box was immediately replaced; in cases of cardiac arrest a "fire engine" was available.

In terms of resources, prior to the introduction of this system, from five to seven persons each morning were required to maintain drug stocks, while under the present arrangement two to two and a half technicians with a pharmacist supervising could undertake this function in one hour.

It was important for the pharmacist to ensure a satisfactory presentation of drugs to aid nurse selection. Type of print and bottles used were important in this respect and end labelling could be useful.

The prescription sheet in use combined a record of prescribing and administration. The name of the drug was inserted in block capitals and in practice approved names were used in 80% to 90% of cases. A variable dose section was included for insulins, anticoagulants, etc. The main advantage of this type of form was that it served as a complete document and stated what had been prescribed and administered. A separate infusion therapy chart was also used functioning in a similar way to the prescription sheet and recording fluids prescribed and drugs added. These two sheets along with another form for topical applications were kept in a three-part folder at the end of the patient's bed.

Mr. Barrett indicated that at present ten ward pharmacists, his deputy and six senior and three lower grade, were at present in post at the London Hospital. Each pharmacist on average visited two or three wards daily and all wards in the hospital were covered by the scheme. During

the visit the pharmacist checked all prescription sheets for accuracy making amendments where approved names had not been used, and checked ward stocks. It was insisted that the name written on the form was the same as that on the bottle supplied by the pharmacist. Where a prescription had been written up for a drug which was not available from the ward stock the pharmacist initiated dispensing of the drug in the pharmacy on an up to nine-day basis.

There had been criticisms of the ward pharmacy scheme. It had been suggested that pharmacists were being sent into a totally foreign environment and were not suitably qualified to undertake duties on the ward. As the system developed however it was apparent that pharmacists were being more and more accepted as specialists in their own field and, with improved liaison with other staff, were being acknowledged as providing a valuable service in the ward situation. One considerable benefit which had indeed accrued from the system was an improvement in the level of communication which had been established with doctors and nurses. From the close contacts which had developed between the pharmacist and the nursing staff, a pattern of tutorials had emerged, at which matters of common interest in the prescribing and administration of drugs were discussed. Confidence in the different roles of the medical, nursing and pharmacy staff had been developed and a better appreciation of each others' problems in the ward situation had led to considerable improvements in the presentation, storage and use of drugs.

It had also been suggested that when the pharmacist was removed from the environment of his department, he became isolated from much of the information which by necessity he had to obtain from text books. It was however considered that in most cases it was not necessary for a pharmacist to give an immediate answer to problems which he did not have at his finger tips. It had been suggested that the introduction of this system was something completely new although in Mr. Barrett's view the same basic procedures had been carried out for many years but the location had now been moved.

Although a 100% pharmacy service had not yet evolved, an on-call service was available seven days a week. A great deal still remained to be done but with the introduction of the scheme and the partial removal of the pharmacist from the isolation of his department, the way was open for considerable development. For instance it might be that the pharmacist would become more involved in such matters as drug monitoring and recording patient's histories. Developments in learning techniques were also desirable, since with the continuing presence of the pharmacist on the ward, more emphasis would be placed on the "instant expertise" approach.

Mr. Barrett considered that the deployment of resources required for the implementation of the ward pharmacy service was fully justified in terms of improvement in patient care as far as drug administering and prescribing were concerned. It was indeed hoped that daily ordering might be replaced by a less frequent requirement for stocks to be replenished, possibly on a once or twice a week basis.

The importance of a drug information centre as a support to the service was particularly emphasised. Such a centre would shortly come into operation in the London Hospital and it was also hoped that more information on drugs would be made available to the nursing staff by way of notes and regular discussion sessions. Inter-communication between pharmacists was also of particular importance.

For the future Mr. Barrett considered that in training pharmacists more emphasis should be placed on the role of providing total patient care in collaboration with the nursing and medical staff. More time was necessary to increase trained staff's knowledge of drugs even though this might involve increasing establishments. Dedication to the profession was of considerable importance in ensuring continuity of service and would also encourage specialisation in such disciplines as paediatrics and dermatology. It was likely that the role of the pharmacist in the ward situation would increase and, looking further into the future, it was conceivable that the pharmacist would spend more and more of his time monitoring drugs by computer on the ward.

Mr. Barrett noted in conclusion that there was a need for developments to take place more quickly than had been the case in the past. Although the aim for the provision of an optimum service must always be the same for all hospitals, in terms of organisation what was best for one unit might not be suitable for another. It was possible, therefore, that methods of application would vary between different situations.

MISS E. CAMPBELL, Work Study Officer, South-Eastern Regional Hospital Board, outlined the pilot ward pharmacy scheme which had been in operation for approximately 18 months in four wards of the Royal Infirmary of Edinburgh. This scheme had evolved as a direct result of a request by the Board of Management to the Work Study Department of the Regional Hospital Board to assist in a survey designed to devise a system of prescribing, administering and recording of drugs within the hospital. While analysing the results of the survey, which was carried out during two months in 1969, much available literature on ward pharmacy schemes was studied and several hospitals where such schemes were in operation were visited. As a result of their investigations the team sought to establish a scheme which would (1) provide a standard safe simple format throughout the hospital for the prescribing, supplying, administering and recording of drugs; (2) provide a standard document so designed that the information it contained could be abstracted in the present or future; (3) involve the pharmacist in the individual drug therapy of each patient; (4) ensure, as far as possible, that the patient received the correct drug in the correct form and dose, at the correct time, and by the route as prescribed by the doctor; (5) permit the drugs for each patient to be dispensed directly from the doctor's prescription without any transcribing being necessary from one document to another; (6) provide the medical, nursing and pharmacy staff with easily accessible information at ward level about the stock of drugs available on the ward; (7) reduce the quantity of drugs stored at ward level and increase the control over these drugs and their cost; (8) provide a standard procedure throughout the hospital relating to the supply and control of drugs required for use in extreme emergencies and (9) to incorporate all these points in a system which would function should the pharmacist be unable to visit the ward daily.

Following discussions with the appropriate staff, it was agreed that the new system would enable the prescribed drugs to be provided on an individual patient basis. To permit this a medicine trolley was partitioned providing a section for each patient on the ward. Each section was designed to contain drugs for individual patients. While all the drugs, including analgesics and laxatives, were to be prescribed on the prescription sheet, such drugs as anticoagulants, steroids and intravenous additives would also be included on the sheet although detailed instructions for these would be written on special documents provided for the purpose. As a result of the survey and review of the

relevant literature, two documents were designed for the scheme - (a) the prescription and drug administration record sheet printed on N.C.R. or carbon-coated paper and (b) a master prescription card which would be inserted under the prescription sheet so as to record a facsimile of the doctor's prescription before being sent to the pharmacy. Both these documents were to be contained in a holder at the patient's bedside.

In writing a prescription the doctor had to print in block capitals the approved drug name, dose, route, whether once only, frequency of dosage, date, and sign the sheet. An indication had also to be given to the nursing staff that a change in drug therapy had occurred and also when the drug therapy was to be discontinued.

Any changes in drug therapy had to be noted by the nurse who would also consult the patient's drug sheet, select the appropriate drug from the patient's own section of the trolley, perform the administration, sign the document and indicate on the form that the dose had been given. It would also be necessary for any drugs no longer required to be laid aside from the ward stock.

The pharmacist visited the ward daily at pre-arranged times when he checked the prescription sheets against the contents of the trolley, removed any drugs from circulation which had been discontinued and checked any stock drugs in use and returned them to the storage cupboard if they were no longer required. He also consulted medical and nursing staff concerning any changes in individual patient therapy and, except where otherwise indicated or when the drugs were available from the ward stock, he dispensed directly from the doctor's prescription a seven-day individual supply of drugs for each patient. The ward stock cupboard and the drugs for use in extreme emergencies were also checked by the pharmacist.

An inventory list of the drugs held in stock at ward level was compiled and it was considered that this should ideally incorporate for each drug its strength, dose and quantity, its use, the main precautions to be observed and principal side effects. This list, which preferably should be of the Kardex type, was located next to the drug storage area in the ward so that when a replenishment of drug was required, the appropriate card could be removed and sent to the pharmacy with the empty container. For emergencies it was recommended that three sealed trays should be supplied to each ward with an agreed selection of drugs which might be required. When the seal was broken the tray would be returned to the pharmacy for replacement.

It was estimated that with the introduction of this scheme, one pharmacist with the assistance of a technician could deal with the requirements of on average 300 beds per day. It was also considered that the ward pharmacy scheme combined with a 'top-up' storeman service for items other than drugs obtained from the pharmacy department would permit the volume of work within the pharmacy to be more readily controlled thus freeing the staff for other work within the department.

The experiences encountered by the introduction of the Aberdeen system into another hospital were outlined by MISS F. CARRICK, Ward Sister, Glasgow Royal Infirmary. She pointed out that the two issues directly concerning nurses were (1) the ordering and storage of drugs with special regard to their security and (2) the prescribing and dispensing of them to the patients.

Prior to the introduction of the Aberdeen system in her unit the storage and ordering of drugs had been the responsibility of the ward sister. She was responsible for ordering the stock of ward drugs, checking that no drug was kept too long and ensuring that all drugs commonly used were kept in sufficient quantities. This had inevitably led to over-stocking at ward level, a practice which was costly and dangerous. The storage facilities themselves had been inadequate with no special arrangements for the storage of Schedules 1 and 4 drugs and the level of security was also unsatisfactory.

Miss Carrick considered that ideally all drug cupboards should be large enough to contain all drugs, including external lotions, that were required on the ward. They should also be so designed that all drugs could be seen at a glance with the Schedules 1 and 4 drugs being kept separate. On Miss Carrick's ward under the new arrangements a separate locked cupboard for holding these drugs was provided within the drug cupboard, the drug refrigerator fitting into a small shelf adjacent to the cupboard. This arrangement, whereby all drugs were stored in one area of the ward, was very convenient for the nursing staff who therefore knew exactly where all drugs were available. Another advantage gained with the new system was that a trolley was provided to contain all drugs currently in use at any one time on the ward. This contained a separate locked cupboard inside for the red labelled drugs and enabled sedatives to be carried round the ward every day thus dispensing with the need to reset a trolley for every medicine round. The delivery of drugs to each ward in a locked box had also greatly improved security arrangements. It was stressed that, with so many drugs now being prescribed and new ones constantly appearing on the market, it was extremely important from the nurses' point of view that drug charts should provide as simple a method of prescribing as possible. It was desirable that all drugs should be listed on the one chart, one method of prescribing of drugs being used throughout the one group of hospitals and if possible throughout the country.

Nurses were particularly aware of the importance of the giving of drugs and because of this many of them were apprehensive when doing medicine rounds. This was particularly true where there was no established method of checking that drugs had been given. Before introducing the Aberdeen system of drug prescribing each unit in Glasgow Royal Infirmary prescribed their drugs in a different way. The methods adopted were haphazard and doctors often relied to a large extent on the nursing staff to write down the drugs and remember to discontinue them when the course was completed. This meant that there was no check on the once only drugs which were prescribed in an emergency and there was nothing written down when a patient was on a sliding scale insulin, anti-coagulants or addition to intravenous fluids. Various other problems relating to the writing down of the drug, method of administration, prescribing errors, time recording and storage problems, were also enumerated by Miss Carrick.

The main advantages gained by the introduction of the Aberdeen system were that there was a clear record of every drug that a patient had had during his stay in hospital and that all prescription charts were filed in the patient's notes on discharge. This meant that if the patient was readmitted there was a clear record of all the drugs that had been administered during his previous stay in hospital. All medical wards in Glasgow Royal Infirmary were now using the same chart, the time of the drug administrations being clearly marked so that it was no longer left to the nurse's discretion as to when to give the drug. The prescription sheet was used both for the prescribing and dispensing of drugs thus

eliminating errors in transcription. Emergency drugs could, of course, be given on verbal instruction but these were recorded on the sheet within 24 hours of administration. The recording sheet also served as a good check on the drugs issued - for the doctors on the number of drugs that had been given, and for the nurses, since the recording sheet was only signed after the patient had taken the dose, thus underlining the importance of giving the drug.

A member of the pharmacy staff visited the wards daily to check all prescription sheets. Any new drug that was ordered and not on the ward stock was delivered to the ward by the afternoon and any drug that had been discontinued and was not required for the ward stock was taken back to the pharmacy. Closer liaison between nursing and pharmacy staff made for greater appreciation of each other's problems, and regular discussions took place on drugs and their usage.

Miss Carrick considered one of the disadvantages of the system was that more time was spent actually on the medicine round than under the previous arrangement. For instance, if a patient were on a large dosage of tablets or had frequent changes of tablets, then several charts were needed. Drugs had therefore to be recorded on one, two or even three charts and the nurses had consequently to be fully aware that several charts were in current use. It was also considered that the layout of the charts themselves could be improved. For instance, as there was a clear column in the chart for method of administration, there was no need to separate the parenteral drugs from the other routes. Also, as the metric system was now in use, it was no longer necessary to include a conversion chart and this space might be better utilised for diet and perhaps for recording the need for physiotherapy, etc.

Although separate anticoagulant, diabetic and intake and output charts were at present in use in Glasgow Royal Infirmary, it was desirable from the nursing and medical point of view that a standard chart should be devised for these purposes.

One of the other problems of the administration of drugs encountered was that, when the pharmacy was closed down in the evenings or for part of the weekends, drugs might be required which were not held in the ward stock. In an effort to combat this an emergency drug cupboard containing most of the drugs likely to be required had been established in one of the wards in the medical area of the Infirmary. This made it possible for any drug urgently required to be obtained when the pharmacy was closed, and avoided the necessity of calling in a pharmacist during off-duty hours.

In conclusion, Miss Carrick noted that the main concern of the nursing staff was security of the drugs at ward level, clear records for the dispensing of the drugs and a means of checking that the drugs had been given. She considered that with the introduction of the Aberdeen system of drug dispensing and prescribing into Glasgow Royal Infirmary, all these points appeared to be covered satisfactorily.

DR. H.C. FOWLIE, Group Physician Superintendent, Royal Dundee Liff Hospital, spoke of drug monitoring in psychiatric and mental deficiency hospitals. Although the model of acute general nursing on which the drug monitoring programme was based pre-supposed a captive population adhering willingly to a definite and controlled therapeutic programme in a limited architectural environment, in psychiatric and mental deficiency practice, most patients were mobile and many were absent from wards for substantial parts of the day. If a continuous programme of drug therapy

was to be effected, each patient had to be issued with in the morning and carry at least his mid-day dose of drugs. An increasing number of patients were encouraged as part of a rehabilitation programme to go home for a few days at a time. Some patients, although technically in-patients, were on extended pass and day care in which drugs were prescribed by the general practitioner and controlled by the patient in hospital was now a well established practice in psychiatry. It seemed paradoxical that an in-patient was not trusted to take and be responsible for his own drugs but on discharge was expected to do so reliably and responsibly.

Many patients did not receive drugs in the usual formal drug round since a substantial number of mental defectives of very low intellect were given drugs in food because they would swallow neither pills nor syrups. Often psychiatric patients had a drug prescribed in advance for use in some crisis situation. In some cases it had seemed economic to do so while in others, such as the case of an impulsive homicidal psychotic patient in a security ward, failure to do so might be regarded as neglectful practice.

For many psychiatric patients hospital was regarded as home and simple home remedies such as analgesics, soothing skin lotions and some laxatives should be available in a simple domestic way. It was dishonest to claim that mental hospitals could or should operate in so doctor-orientated a way that these drugs could be prescribed for occasional use only by a doctor.

The sleeping arrangements in psychiatric hospitals varied greatly, the majority of patients being housed in dormitories of varying sizes and in single rooms. The organisation of night sedative rounds carried out from Kardex forms held on day wards, where few patients slept, could be difficult. Dr. Fowlie noted that all these were real problems which had been met when drug monitoring was introduced to psychiatric practice in Dundee. Most could be overcome, although some still presented difficulties mainly due to the antithesis of independence-orientated rehabilitation and the dependent role of the patient who was being drug monitored.

Another major difference between psychiatric and general medical practice lay in the patient's length of stay in hospital. Some 80% of the standing psychiatric hospital population had been in hospital for more than one year and many for ten or more years. To change the prescription Kardex at 12-week intervals was a formidable clerical task in an 800-bed hospital. Again, only the last three months' drug record was available to the doctors confronted with a long-term patient in the ward, and this, although not a major obstacle, could make the doctors antipathetic to drug monitoring.

Dr. Fowlie outlined his experience in introducing drug monitoring into the Royal Dundee Liff and Strathmartine Hospitals. Both units had, for several years, used a Kardex system for drug prescribing. Initial anxiety and in some cases hostility on the part of nursing staff to drug monitoring might have been a defensive over-reaction to an apprehension that drug dispensing practice was not as good or accurate as it ought to have been. Such apprehension had proved to be unfounded for in practice the "mistake" rate in the psychiatric unit - about 2% - appeared to be substantially lower than that in general medical practice.

It had been found essential to nominate and second for training a senior member of the nursing staff as the co-ordinator of drug monitoring and, initially at least, it was necessary for that person to spend much of her

time educating staff about supervising and correcting drug monitoring practice in hospitals. This co-ordinating nurse must have direct access to a senior member of the medical staff who had responsibility for 'supervising' the prescribing work of his colleagues. The smooth introduction of drug monitoring depended to a large extent on the thoroughness of the educational exercise which preceded and accompanied it. At Dundee, ward meetings, seminars and clinical meetings for medical and nursing staff had been held and booklets, leaflets and explanatory notes prepared and issued.

Many nurses had expressed anxiety about the amount of time drug monitoring would take and the extension of time taken to do a drug round. In practice some 10 to 15 seconds per patient were required so that in a 60-bed ward with half the patients on drugs the increase in time per drug round was 5 to 10 minutes.

It was essential that information being collected was collated and made widely available to the medical and nursing staff since a major objective of the system was to educate and to enable mistakes to be corrected. At Dundee, quarterly bulletins were issued showing for each ward the incidence of prescribing mistakes of different kinds and the total number of mistakes as a percentage of all prescriptions. In the first three months this percentage had ranged from 0.5% to 3.2% while in the second three months the range was 0.1% to 1.5%. Dr. Fowlie suggested that it must follow that, where mistakes in prescribing or dispensing were being made, the person in error must be identified and made aware of the situation.

In any organisation which was asking staff to undertake new duties, there must be some return or benefit if they were not to become bored, cynical and careless. With the introduction of drug monitoring, nursing administration would be forced to review dispensing practice and, having corrected any mistakes, they would thereafter rest more secure in the knowledge that the approved code of practice was being observed and that the risk of further mistakes was being lessened. The individual nurse gained in job interest and satisfaction since what was previously regarded as a chore was now seen to be an important part of the total care programme for the patient.

As far as the patient was concerned he suffered fewer errors of omission or commission and frequently received better medical care, since in the past the use of drugs had not been critically reviewed at regular intervals. With the introduction of drug monitoring, doctors, when they signed up new Kardex prescription cards every 12 weeks, made a conscious and positive reappraisal of the patient's drug needs.

In the past 20 years the development of a psychopharmacopoeia had revolutionised psychiatric care and a hopefully therapeutic role had replaced the custodial role of the psychiatrist. While the lives of patients in psychiatric and mental deficiency hospitals were undoubtedly more comfortable with less distress and less psychic suffering, the fact remained that nearly every psychoactive drug used in adequate dosage produced significant and noxious side effects. There was a need to exercise a balanced and unbiased judgement on the advantages of drug therapy as against possibly harmful side effects and the problem, therefore, was one of persuading those working in the psychiatric field to record conscientiously the side effects which became apparent.

The psychiatrist was faced with the problem of treating the patients and producing adverse reactions or living for some years alongside the patient's madness comforted - and small comfort it would be - that the madness would be uncomplicated by adverse reactions.

In summary Dr. Fowlie noted that those in psychiatric practice who wished to introduce drug monitoring should first have a Kardex system of drug prescribing, must allocate nursing and clerical staff and adequate funds to the project, be prepared for recurrent scrutiny of their prescribing and dispensing practice and must be willing to face very fundamental questions about the consequences of therapeutic endeavour.

PROFESSOR J. CROOKS, Department of Pharmacology and Therapeutics, University of Dundee, emphasised the importance of standardisation of the procedures and documentation in the development of drug control and drug information systems. He described the benefits which could flow from the adoption of standardisation in individual hospitals, in groups, in regions and even nationally as (1) the practicability of utilising drug information by data processing techniques, (2) an increase in safety by ensuring that patients received the drugs prescribed for them, (3) more rational and therefore more efficacious use of drugs, and (4) the detection of unsuspected morbidity and mortality produced by drugs. This required the co-operation of medical and nursing staff who were required to change time-hallowed procedures and had to see the benefits clearly. The hope of conversion lay in the application of drug information toward reducing errors of drug administration and the adverse and often undetected drug reactions which prejudiced patient care in these days of polypharmacy with potent and often highly dangerous drugs. Unexplained variations between doctors, wards, hospitals and countries also existed and these required to be demonstrated so as to provoke questions as to why they existed. These objectives could only be achieved by applying modern data processing techniques to information about drugs.

The basic information required by a drug information system was the drugs given to patients, identification of these patients, and the diagnoses attached to the patients. In Scotland all hospitals collected and processed the last two items using form S.M.R.1. If the drugs given could be linked to this information, a basic drug information system could be created with minimum cost. The volume of information involved made computer processing essential. In Aberdeen in one year 28,000 patients were admitted with 40,000 primary and secondary diagnoses. The processing of information involved data abstraction, coding, punch-carding, storage, data-linking, recovery and presentation. If simple abstraction of discrepancies between drugs prescribed and those recorded as having been administered were added to the system, then it could be applied to diminishing errors of recording (and indirectly of drug administration) by feeding back results to the nursing staff.

Again, variations in prescribing patterns in wards dealing with similar patients posed obvious questions when fed back without value-judgement to the medical staff. Professor Crooks cited as examples, the use of diuretics and the wide range of anticoagulants used in the treatment of deep venous thrombosis.

A further application of a drug information system of the simple type described was to obtain numerator and denominator data to establish the true frequency of suspected or established adverse effects of drugs in

the patients for whom the hospital or centre was responsible. An example was confirmation of the relationship of methyl-dopa and haemolysis, as a result of which the frequency and severity of the reaction did not merit reduction in use of the drug. This technique was now being applied to a number of new drugs where adverse reactions were suspected.

Epidemiologically-based drug information could stimulate clinical pharmacological research into the mechanism whereby drugs used exerted their adverse (and efficacious) effects. The influence of amitriptylene on the toxicity of digoxin in patients having both drugs raised the question of the pharmacological mechanism by which this occurred. Another example related to mortality rates and the use of frusemide.

The drug information system so far discussed was essentially retrospective since the processing was carried out following discharge of the patient, but a prospective element could be fed into the system and by using data processing various drugs could be matched for different reactions. An example of this was a study whereby it was shown that the hazard of thrombocytopenia was not less with frusemide than with the thiazide diuretics. The growing problem of modern drug therapy was that of inter-reaction between two or more drugs given to patients, these inter-reactions frequently being harmful. As examples, the frequency with which phenobarbitone produced poor control of anticoagulant therapy had been identified, as had the interference with adrenergic blockade by tricyclic antidepressants in hypertensive patients. There was considerable known information in this field and monitoring of drugs to establish the nature and size of the problem was desirable. In this connection there was a role for the ward pharmacist and with long-stay patients a valuable point was that the effects of drugs could be examined over a much longer period.

The Committee on Safety of Drugs depended on spontaneous drug reporting. In practice only 20% of the yellow cards used for this purpose came from hospitals, where no one individual was responsible for making reports. The position could be improved by including in the prescription sheet a column to indicate the occurrence of an adverse reaction. This would then be notified to a local or central body who would forward information to the safety group. Again the inclusion of a section in the discharge summary note of the patient in which adverse reaction drugs could be mentioned would help, and a ward pharmacist could assist with this development.

Scotland was unique in that it was the only country with complete hospital morbidity statistics. If drug information could be added to this we would have achieved another first in health care but this could only occur if a national policy for standardising methods of recording, transmitting and processing medical information, in this case drug information, could be agreed.

DISCUSSION

In opening the discussion MISS S. ELLIS, Research Pharmacist, spoke of her work on a research project relating to the administration of drugs in the West Cornwall group of hospitals. She emphasised the importance of ensuring simplicity in the design of forms dealing with drugs particularly in view of the number of junior nurses who would be handling them. The problem of training junior staff in maintaining accurate records often presented difficulties especially in the smaller hospitals,

and the apparent proliferation of forms was frequently interpreted by junior staff as a means of checking by the senior staff on the performance of their duties. It was, however, essential that student nurses should be provided with sufficient time and supervision in the prescribing of drugs. Overall the pilot scheme which had been introduced to the hospital group had been generally welcomed and the new recording sheets which had been devised had been accepted by both medical and nursing staff.

In the course of the discussion the following were the main points to emerge:-

(1) Standardisation and design

Although it was noted that the Tunbridge Committee* had recommended that effective standardisation of hospital medical records should be introduced, in view of the many individual requirements of different types of hospitals and the need to maintain a simple design, it was pointed out that there was a limit to the degree of uniformity which could be attained nationally. The key was the identification of areas of common ground and the general introduction of international standard paper sizes would go some way towards meeting the problem.

There appeared to be definite advantages in providing a separate recording sheet rather than one comprehensive document and it appeared that there was a need for separation between recording the administration of parenteral and oral drugs.

(2) Staffing

It was pointed out that in psychiatric hospitals with large bed complements even an extra five to ten minutes for each drug round placed a considerable additional workload on the pharmacy service. It was always desirable for a high level of pharmaceutical control to be maintained and an example was given of a psychiatric unit with 900 beds where this was difficult with the present establishment of one pharmacist and one technician.

(3) Drug administration at home

The difficulties were mentioned of preparing for discharge from hospital geriatric patients, who frequently had failing memories. One study in Glasgow had revealed that morbidity and mortality associated with self-medication was a large problem and it was felt that there was a definite need for guidance to be given to the patient when at home. Considerable problems were however inherent in such self medication in the home, and hospital staff were continually aware of this situation. It was noted that to investigate the problem a pilot scheme had been initiated in Aberdeen whereby a group of general practitioners were maintaining Kardex type records of drugs taken by patients in their practice who had recently been discharged from hospitals. Considerable importance should be attached to educating the patient about the use of drugs at home and to the role of the general practitioner in imparting to the patient a feeling of responsibility.

* Ministry of Health. Central health services council. The standardisation of hospital medical records: report of the sub-committee /chairman: R.E. Tunbridge/. London, H.M.S.O., 1965.

(4) Role of the pharmacist

Doubt was expressed as to whether it was truly a function of the pharmacist to be fully knowledgeable about clinical tests performed on patients. There was no doubt that it was a duty of the pharmacist to point out any obvious oversights in drug administration of which he was aware, but it should be clear that he was functioning in a specialised role in the same way as the nurse and doctor were acting within their own fields of responsibility.

(5) Adverse reactions

Although it was noted that there was an inherent risk of adverse reaction to drugs, this was accepted by doctors and in particular psychiatrists. From various studies it had been suggested that from 5 to 10% of all hospital admissions were iatrogenic and 30% of all patients in hospitals experienced adverse drug effects. This resulted in a 2 day increase in the average length of stay of patients in hospitals. Here again patient attitudes were important and it was suggested that more emphasis might be put on increasing the level of patient's responsibility in hospital thus enabling hard pressed staff to make the most of limited resources available to them. It was noted however that, experience in the use of the Aberdeen type system of drug administration, had indicated that the amount of drugs used had been reduced and in fact considerable time was spent in taking patients off drugs which had been prescribed in other situations.

(6) Range of drugs

Some difficulties were encountered in view of the wide range of drugs of the same type, in particular hypnotics, antibiotics and diuretics which were being used in hospitals and it was suggested that a recommended list of certain ranges of drugs might be prepared and issued from the central departments. Also the system of circulating drugs in wards was one which tended to increase the use of the more expensive varieties. The importance of maintaining doctors' freedom of choice in the administration of drugs was however emphasised, and there were obvious difficulties in issuing instructions as to the category of drugs which had to be used. Nevertheless it was noted that, unless some limit in resources was effected, over 3,000 types of drugs would have to be kept in the average general hospital and it was pointed out that most situations could be satisfied by making use of drugs listed in the National Formulary supplemented by certain more recent drugs of proven efficacy on which information was available. The value of local prescribing committees in this respect was also stressed.

(7) Use of information

Doubts were expressed about the extraction and use of data from a computerised system. It was suggested that such a facility could make it very easy to draw ready conclusions when many other deep factors might exist but not be fully appreciated. Such systems however should be regarded as being in their infancy and information was frequently made available only to pose further questions. Much more work was required but when facts were presented together they often pointed the way and indicated situations where true associations existed.

(8) Costing

No mention of comparative costs had been made in the information issued relating to the work of the drug monitoring system in Aberdeen. This had however been an intentional omission since the aim of the system was to present data in a purely objective way, without indicating any preferences for drugs or methods of administration.

It was noted that histograms of drug costs were regularly issued centrally although some doubt was expressed on the value of the information provided.

(9) Review and time of drug administration

It was suggested that a review of drugs every 12 weeks was not of sufficient frequency even for long-stay units. This however was sometimes governed by levels of staff available. Too much emphasis should not be placed on the time taken on drug rounds since student nurses in particular required time to study systems and to administer drugs correctly. It was essential to give them 'on the job' training with active participation in the ward situation while at the same time providing adequate supervision. The simple fact that a medicine round might take some time often helped to underline its importance. Rushing the rounds indeed tended only to increase the likelihood of mistakes.

(10) Checking of drugs

The problem of checking drugs administered by nurses was discussed. The Aitken Report in fact had recommended that two people should be involved in each medicine round, although it was noted that staffing levels might make this difficult. Improvement in drug presentation would be helpful in this respect and continuing emphasis during nurse training on the importance of observing correct procedures was essential. A great deal of effort was being made in hospitals to alleviate any difficulties over drug administration and it was suggested that too much stress should not be placed on the expedition with which a round could be carried out. The nurse's degree of responsibility in drug administration and recording was one of which she was continually aware and should not be under-emphasised.

Scottish Hospital Centre,
January, 1971.

Nurse staffing
The 40 hour week and duty rotas

Meeting at the Scottish Hospital Centre on Tuesday 5 October 1971

This conference was arranged in order that senior nursing staff should have an opportunity to discuss the problems associated with the implementation of the 40-hour week for nursing staffs and the organisation of their duty rotas.

DAME MURIEL POWELL, Chief Nursing Officer, Scottish Home and Health Department, took the Chair. She noted that the problem of introducing the 40-hour week could be looked at from two sides - the needs of the patient and the needs of the staff. Which was more important? To ignore the needs of the staff could mean failing to meet the needs of the patients; this was particularly relevant with hospitals dependent upon part-time staff. Patients had medical and nursing needs - drugs to be given at certain times, treatments and diagnostic comments to be made: they also had social, psychological and physical needs and the nurse had to provide an environment in which these needs could be met. Involvement in the creation of the social environment was perhaps the most difficult to achieve. Perhaps more investigation was required to ascertain the needs of the patient.

Defining the needs of the staff could prove more difficult than assessing the needs of the patients. Much depended upon the type of staff - full-time or part-time, their ages, where they lived - the geographical location of the hospital, and such mundane matters as the local bus time-table. Managers of nursing services should ask themselves "Have we organised the 'off duty' to fit in with our preconceived notions of how the system should work? Have we consulted the staff and tried to meet their needs? Have we tried to achieve a balance - to assess the needs of the patient, evaluate the work load and fix the staffing work schedules accordingly?". Many aspects of the staffing problem needed to be discussed. There was the long day, split duties and shifts. Night duty was a question in itself. Was it better to work one week in four on an internal rotation or do three months at a stretch? It had recently been stated that a week was needed on average to achieve a reasonable adaptation from day to night work. How important was it to the staff to be sure of a regular weekend off? Part-time staffing was another problem. Was it easily possible to fit part-time staff in for the hours they were able or willing to work?

The present problems of nurse staffing also highlighted the fact that sickness and absence rates were rising, and therefore these should be looked at more closely in their relationship to the organisation of nursing work. Attention had been drawn in the nursing papers to the problems of the long day and one study appeared to establish that long days of duty could be a significant discouragement to nurses to go to work. Managers of nursing services needed to take these issues very seriously indeed.

The speakers would therefore discuss the two main aspects of the problem of introducing the 40-hour week, meeting the needs of the patient and meeting the needs of the staff.

MISS D NORTON, Nursing Officer, Scottish Hospital Advisory Service, reviewed the basic elements of human needs, sleeping, washing, eating, using toilet facilities and wearing clothing. These constituted the framework on which all staffing patterns had to be woven.

On average a person spent one third of every 24-hour period in sleep. Some required more and some less, varying with an individual's age and his physical and mental state at any given point in time. For some, the sleep urge began at dusk and ended with the dawn whereas others were mentally lively at midnight and partially comatosed until about 10.0 am. Some people could sleep on a clothes line while others required the perfect environment for repose including absolute silence. Sleep patterns were essentially individual and as sufficient sleep was essential for health it was in itself a healing process. In a hospital ward or dormitory the waking and tucking-down times required to be flexible - within reasonable limits, but the limit should not become frozen as 'it' and the whole concept of flexibility lost. Flexibility was to the nurses' advantage in organising the coverage of ward work but unfortunately rigidity was the more common approach and often rigidity based on a false premise.

Having geriatric patients washed, up in chairs and served breakfast by night staff all before 8.0 am, gave patients an exceedingly long day and made excessive demands on night nurses who, with many dependent patients to attend, could not possibly meet the commitments without starting at 4.30 am. In this particular instance the local general practitioner who arrived at the hospital at 8.0 am to do his rounds before his surgery had no idea of these preparations on his behalf and had no objections whatsoever to the routines being changed. Doctors rarely laid down rules for the organising of work patterns.

Washing in bed was a gymnastic feat, even for the able-bodied, especially if the bed table was of the bridge-type placing the rim of the washing basin at eye level. Use of a cantilever adjustable-height table at least made the water accessible without strain and exhaustion and permitted some patients to wash themselves who could not otherwise do so. On ablutions, be it washing, bathing or showering, good design of the physical environment and availability of appropriate equipment were of paramount importance. Nurse managers required to be conversant with the guide material available on these subjects in order to avoid poor upgrading of sanitary annexes and the purchase of inadequate equipment. Patients should always be given the opportunity of washing their hands after excretion, and a bath or shower should be a pleasant experience - not taking on the attributes of a 3-minute car wash, because a dabble in pleasantly hot water did a lot for a patient's morale as well as for his hygiene.

The momentum of the staff day and no less that of patients in hospital was punctuated by the partaking of meals which should be regarded as intervals of withdrawal from the stresses of the day; in other words, interludes of relaxation and enjoyment. More than any other basic ward routine the provision of meals was influenced by factors outwith the ward, namely, the throughput of the hospital kitchen and the porterage service. To create a truly therapeutic atmosphere in the ward at meal times it was first necessary to have good management organisation elsewhere in the hospital. As regards management within the ward:-

1 A nurse sitting down took no longer to feed a patient than she would from the standing position.

2 Many handicapped patients - temporary or otherwise - could be independent at meal times if provided with 'aids' such as:-

a foam mats under plates which prevented them from slipping

b plate 'bunkers' which prevented food being accidentally scraped off the plate

c drinking vessels with handles large enough to admit two fingers and large handles attached to eating utensils

Surprisingly these 'aids' were usually only seen in geriatric rehabilitation units. For ease of eating and prevention of food spillage into the lap, the table top should be at elbow height to the sitter and not more than two inches from him. Patients unable to eat cleanly should dine apart from others.

3 The traditional method of the ward sister or charge nurse loading and dispensing plates needed to be looked at: there was no nursing skill in this. Far better that the time be devoted to the receivers of the food.

On the subject of excretion, the majority of people normally tended to their toilet before having a meal and hospital patients were no different. Like sleep, all persons had individual patterns of excretion habits, and the organisation of ward work should aim to respect this individuality. A rewarding technique developed in recent years had been the establishment of the frequency pattern of soiling in geriatric patients incontinent of urine. Once this pattern was known a programme of toileting could be worked out which, if conscientiously followed, forestalled catastrophies - with obvious benefits for both patient and nurse. Studies had shown that 14 per cent of so-called "irremediable" incontinent patients could be expected to regain a large measure of bladder control by providing toilet facilities every two hours.

Many patients could - and with benefit - dress themselves if:-

1 garments were suitably designed for disabilities

2 if the patient could be seated with feet flat on the floor and garments placed within easy reach

3 if opportunity and encouragement were given

It was to be noted that a register of garments of all types designed for the physically handicapped and to aid nurses in dressing and undressing of truly dependent patients would be published in the next few months. No long-term patient should be compelled to wear communal clothing and footwear, and no nurse should be compelled to spend precious time in the ward linen cupboard stacking its shelves. A personalised clothing system and a central linen service with ward 'topping up' were essential for the promotion of good patient care.

MR J S SHARPE, Nursing Officer, Scottish Hospital Advisory Service, reviewed the psychological and social needs of patients as part of the problem. He noted that the most important aspects of healthy living were a sense of personal worth, a purpose in life, warm meaningful relationships with others, intellectual stimuli and outlets for creativity. Taking the single yet very complex need to feel important one had to look at:-

1 what factors, other than material possessions, tended to reinforce in a person this feeling of importance

2 how possible was it in hospital to incorporate this into the nursing care plan

3 what made people feel important: was it to be remembered by others, to be asked to give an opinion, to have one's wishes and idiosyncrasies respected and acted upon, and to be in a position to make decisions etc.

In management the quality and nature of decisions taken determined the status of the individual within the organisation. Individuals no less were "managers" in the sense that they continuously made decisions related to the way they lived eg what to wear, what and when to eat, when to get up and when to go to bed, when to take a bath and how long to take over it, and so on. This 'self determining' capability characterised human beings and gave them dignity even under conditions of appalling physical deprivation.

Could many hospital patients make decisions? Many hospitals now offered the choice of food, if not the time at which to eat. In some long-stay hospitals shopping expeditions were arranged so that patients could choose items of clothing, in others patients had to get up at 6.30 am although breakfast was not served till 8.0 am, and there were hospitals where all patients got their weekly bath on a Wednesday - because on that day both day shifts overlapped and there was more than adequate staff for supervision. Bathrooms were at one time designed for this purpose with six or more baths and in recent times communal bath areas with as many as ten baths had been seen with multiple bathing in progress. What chance was there of choice or privacy under those circumstances? Many practices such as locked doors, censored reading material, and refusal to allow patients to handle significant sums of money, justified by statements like "It's for their own good" or "They would only lose or waste it", suggested an over protective attitude which deprived the patient of the opportunity to be self-determining, with resulting loss of self-esteem.

Nursing records of the "Kardex" type recorded concise, accurate statements regarding physical treatments, diagnostic tests etc. but did not lend themselves to the recording of continuity of emotional care, a matter which in psychiatric hospitals should often be discussed by all concerned. In hospitals where the day duty was covered by two shifts, both working $3\frac{1}{2}$ long days per week and only meeting in passing once a week, what happened to continuity of policy if sisters differed in their views - a not infrequent occurrence? The saying "as different as night from day" had much significance in the context of communications and there were hospitals in which a totally different philosophy obtained by night as distinct from day.

Was it possible in hospital to enable patients to maintain a significant contact with already formed relationships eg spouse, children, parents and friends and, in the case of the long-term patient, to form new relationships of a meaningful kind? Despite all that had been written and said about visiting times, many notices on the subject still portrayed some blanket rule, blindly followed irrespective of the patient's condition or the background circumstances, and lacked any rational foundation except "You have to have rules". Even where rules had been changed to permit more open visiting sanctions could be operated at ward level to inhibit full use of the facility. The long-stay patient's need for warm, meaningful relationships were most difficult to meet, where visitors were few and far between, if they existed at all, and manifestations of the patient's illness might impair the capacity even where the means existed. What could be done about it?

For patients vulnerable or 'at risk', there had to be deliberate restructuring of the ward environment both physical and functional to make interaction possible. Nursing staff then had to act as catalysts in the social sense, stimulating responses in and between others until spontaneous

interaction occurred. For other patients the hospital (virtually the patient's home) should provide a wide variety of social occasions and events corresponding as closely as possible to the normal patterns, and the patients encouraged to spend a healthy proportion of their leisure time in the company of others. Most hospitals made some provision of this kind but all too often there was a Monday - Friday 9.0 am - 5.0 pm situation, with the patients' dance finishing at 8.45 pm so that the hospital would be 'tidy' again with patients back in their wards for hand-over to the night staff at 9.0 pm.

In conclusion Mr Sharpe suggested that any review of nurses' working hours and rota systems should include a study of therapeutic goals and objectives so that some balance could be achieved between the personal needs of staff and the therapeutic needs of patients.

MISS J MACKENZIE, Ward Sister, Western General Hospital, Edinburgh, began by noting that in preparation for the introduction of a 40-hour week nurse managers had not only to get the facts straight they had to get the shifts straight. Continually working split duties put great strain on both the trained and the student nurse, because no nurse could relax fully knowing that she had another 4 - 5 hours to work in the evening. In such situations there was a feeling of never having left the hospital for days; this was bad if nurses wanted to be interesting, broad-minded companions to their patients. A nurse's attitude to her patients could be much more therapeutic if she worked realistic hours and detached herself from the clutches of the hospital world.

With the split duty system, the more chopping and changing of staff there was the greater risk of mistakes being made. To counteract the lack of continuity there had to be careful and elaborate passing on of messages which could be time-consuming and not without its dangers. There was a simple but not far from the truth story of the nurse at 9.0 am being given certain instructions about a patient 'to prevent a disaster when trouble arose' and, as a result of the many hand-overs during the day, by the time the night nurse was explaining the situation to the night sister it had become 'cement him in plaster and double the dose'.

The actions and hours of other departments of the hospital affected the activities in many wards. For example, afternoons in many wards were extremely busy because some members of the hospital staff wanted either the patient's blood or his cerebrospinal fluid, or to wield the scalpel. The technicians, therapists and doctors were not going to save their tasks for the evening if it could be avoided: they believed in working a straight shift, doing it thoroughly, putting everything into it and then finishing completely.

For nursing staff there was nothing more invaluable than having an hour each afternoon with every member of the day staff present for a report on the patients, for informal teaching, for criticism and comment on ward work, and also for the ward sister or the staff nurse to obtain the vital feedback from those closest to the patient. This hour could often coincide with a rest hour for the patients. The ideal situation could best be achieved by having two shifts during the day, each overlapping the other in the afternoon. In-service lectures and sisters' meetings normally took place in afternoons and therefore there was a need to have the ward adequately covered at this time: it seemed ridiculous therefore to continue to operate split duties.

Where split duties were being worked a change to the two-shift system would require radical rethinking on the part of the ward sister and other senior nursing staff. They would for example have to obtain the co-operation of the medical staff for the timing of certain ward procedures and also obtain their help with teaching.

In conclusion Miss Mackenzie said that if hospitals persisted in maintaining out-of-date conditions of service, they were deceiving those girls being attracted to nursing on the basis of the cover girl on the glossy pamphlet looking so carefree and happy. Peas and bananas were the only commodities left for splitting and it was up to nurse administrators to ensure that no heads got involved.

MISS M JOHNSON, Student Nurse, Western General Hospital, Edinburgh, said that on hearing of the proposed implementation of the 40-hour working week her thoughts had immediately turned to the needs of the student nurse for maximum clinical teaching and experience, and also her need to be able to lead a fairly normal life similar to her other student friends. It was important to the student nurse that her off duty should be regular and balanced and that reasonable advance notice of it should be given. Working on the principle of a 40-hour week with two consecutive days off this should mean a three-shift system with an early shift guaranteeing an evening off duty, a late shift giving a morning off duty and a night duty shift working on the internal rota system giving one week's night duty in perhaps 4 - 6 weeks. This had many advantages for the student, not least being able to see the patients around the clock, and more particularly to know well in advance what one's duty hours would be. At present the hours and how they were arranged were demoralising.

Shifts should be so organised, not necessarily on the basis of weeks of late or early duty, but to provide a balanced mixture giving an appreciation of the ward at all times. The two days off should also be varied so that a student nurse was not required to take Monday and Tuesday off each week during her three years training. To meet these requirements might not be easy but every effort should be made to obtain a well balanced mixture.

Another important aspect of the organisation of the working week was that a student nurse should know well in advance about her off duty time. Other members of the hospital population and most of the population at large could plan their social activities well in advance and there was no reason why nursing staff should not be in the same position. This applied particularly to young student nurses who were having to study for their qualification as well as lead a normal social life. Regularity, balance and adequate off duty time notified well in advance would be an attraction to new entrants to the profession.

Miss Johnson noted that split duties for student nurses were demoralising, tiring, expensive, and created undesirable staffing gaps during the afternoon periods: if the profession was to attract the right kind of recruits split duties would have to go. Miss Johnson also put in a plea for longer lunch breaks of at least 45 minutes and questioned why they were excluded from the working hours.

MR R MORRISON, Principal Nursing Officer, Craig Dunain Hospital, Inverness, spoke on the practical problems met with in changing from a long day to a shift system at Craig Dunain Hospital. The opening moves leading to the implementation of a shift system were made as far back as 1953. Over the years many meetings were held between the Board of Management and representatives of the nursing staff. Each side made proposals and counter-proposals and discussed at some length the many problems that might and sometimes did arise (it was clear from the historical record that staff should be represented in the discussions from the earliest possible stage). Eventually a three-shift system was introduced in October 1966 for a trial period of approximately 12 months.

The main reason for introducing a three-shift system was that the needs of patients would be better catered for; they would have a day as close to normal as possible with more entertainment in the evenings and less tendency to go to bed too early; and they would receive better attention from staff not subjected to spells of duty extending over 11 hours excluding meal times (actual long day hours were from 6.30 am to 7.30 pm). It was expected that the effect on staff would be to reduce sickness and absenteeism and promote recruitment, and that its beneficial effects would go some way towards retaining existing staff and improving morale.

At the end of the trial period the main staff association sought to revert to the long day system and put forward arguments that the shift system had failed, expected recruitment had not materialised, sickness was as rife as ever, patients were subjected to changing ideas between am and pm shifts, evening entertainment and activity had not developed in the way hoped for, and nurses were shuttled about to staff the wards. Arguments for retaining the shift system were based on figures which showed an improvement in recruitment of student nurses and pupil nurses and a dramatic drop in wastage in these grades. Investigation also showed that changing sets of ideas was not the fault of the system but more that of individuals in not getting together to form policy; that lack of diversion in the evenings again was not the fault of the system but an admission of nursing failure; and that under the old system nurses had had to be moved about between wards. The long day system with its 6 days off duty in the fortnight had been attractive to many members of staff, making it tempting to undertake an additional job and difficult to accept a new system affecting such arrangements. After much discussion the Board of Management had come down on the side of retaining the three-shift system and it had now been in operation for a period of 5 years.

In introducing a shift system there would be common problems eg length of shifts as affected by the needs of patients, overlaps, meals, transport, number of staff required, attitude of staff, and attitude of patients. On length of shifts, bearing in mind the length of the working week, even shifts were desirable and made for easier administration in providing cover for holidays and teaching blocks. Times of starting were also important in relation to transport facilities available and the distance staff had to travel at both ends of the day. Start and finish times also had to be suitable for the patient's day, rising and bed times particularly. After experimentation, at Craig Dunain the present shifts and hours worked on the basis of an 84-hour fortnight are:-

Day Duty	(a)	6.54 am to 2.32 pm = 7 hours 38 minutes) 3 days off duty in
	(b)	2.22 pm to 10.0 pm = 7 hours 38 minutes) each fortnight
Night Duty		9.50 pm to 7.10 am = 9 hours 20 minutes x 9 in fortnight

Some staff work permanent night shift, and with the new arrangements for extra payment for night duty many were seeking to work night duty only.

It had been generally agreed that the time for overlaps should be the minimum necessary for an efficient hand-over but sufficient for staff to come on and go off duty eg changing time. Many considered that a generous overlap period was a waste of time at the morning and night changeovers. From experience, however, senior nursing staff would welcome a longer period for changeover between the day shifts to give sufficient time to discuss and decide common policy, to facilitate in-service training, and to give time for other activities suited to that time of day.

Craig Dunain Hospital was three miles from the centre of Inverness and many staff came from a greater distance. The bus company co-operated by altering the service bus times to suit the starting and finishing times of some of the shifts and put on special buses for the start of the early shift. The Board of Management paid a subsidy to the bus company: tickets for the special buses were bought at the hospital office.

Mr Morrison suggested that it was impossible to change from a long day system to a shift system without increasing staff, although on cost grounds it was obviously desirable to keep the numbers down. Work loads needed to be looked at in wards and if possible changes made, although fighting tradition could be difficult against such statements as "beds must be made by doctor's visit" and "this is bathing day". Laundry collections and deliveries might require modification as did the part played by nurses in this activity.

In conclusion, Mr Morrison said that while he had described a number of the problems there were still some left unresolved. The situation was so variable, not only between hospitals but within an individual hospital, that it was not easy or might not even be feasible to work out a system suitable to all hospitals in a group. What could be said with certainty was that at Craig Dunain Hospital the majority of staff would not wish to return to the long day (a few diehards had perhaps accepted the changes as inevitable), sickness and absenteeism was down (perhaps also due to other efforts in this direction), but most important the shift system had improved patient welfare in the hospital which, after all, was one of the prime objects of the exercise.

MISS B BYRNE, Chief Nursing Officer, Board of Management for Glasgow South-Western Hospitals, spoke on the introduction of straight shifts and a 5-day week in her group of hospitals. When planning the changes the primary aim had been to give the best possible advantage to the staff. The alternative was staff dissatisfaction, fall in recruitment and retention of staff, and ultimately a fall in patient care. From the outset it had been necessary to recognise that the various types of nursing required different considerations. It was essential to involve the staff concerned with the planning of the rotas eg a working party of sisters and some senior staff, and it was advantageous to include in the working party a sister who might be resistant to change.

Following discussion at Principal Nursing Officers' level, the Senior Nursing Officers were asked to set up working parties within the medical divisions to consider the introduction of straight shifts on a 5-day basis. The SNOs were told that the following factors would have to be considered:-

1 Staffing levels required for evening and weekend duties - bearing in mind no planned admission or theatre list and no consultants' visits during these times. (A survey had shown that the number of weekend emergency admissions were no greater, and, with the

exception of the accident area, in many instances less than those which took place on a night shift).

2 An overlap was necessary for changing over from one shift to another

3 In arranging the times to commence or finish shifts, the timings of public transport had to be taken into consideration

4 Staff commitments - educational or otherwise

5 Some staff might wish on occasions to work a split shift

6 In planning the off duty over a 2 - 4 week period, to ensure that all members of staff had the same number of evenings, weekends etc (for this, the grouping of wards into units was helpful).

7 To consider wards and departments with special problems eg accident department, intensive care areas, theatres, wards with a heavy work load, late theatre sessions etc

8 Some education of medical staff would be necessary

As straight shifts would lead to an uneven pattern of staffing SNOs were briefed as to how this might be overcome:-

1 Study the in-patient's day. Could there be a later start to some activities?

2 Look at the work load within the ward. Could its spread be changed eg admissions? If for example a ward admitted in the morning and the main work force came on duty at 12.0 noon, ask the questions "Why morning, what happened to patient when he came in, when was he seen by medical staff, did his investigations start immediately?" It might be found that the admission was sitting in a day room awaiting the discharge of a patient to make a bed available.

3 Look at staffing pattern of ward and when vacancies occurred consider possibility of employing part-time staff instead of full-time staff - better ward coverage might be achieved by employing two persons from 8.0 am to 12.0 noon rather than one from 8.0 am to 5.0 pm.

SNOs were encouraged to plan and try out different systems.

Internal rotation of night duty was tried with staff nurses and enrolled nurses over a period of six months in a geriatric area. This system was found to be extravagant in staff, tiring, lacking in flexibility, and there was an increase in sickness and absence rates. A change back to the conventional day duty/night duty pattern resulted in better recruitment of full-time staff, a reduction in the sickness and absence rates from 13 per cent to 7 per cent, more economical use of staff, and greatly improved ward cover.

The advantages claimed for a straight shift system were that staff gained a financial advantage (eg less travelling expenses) and off duty could be calculated well in advance, but the latter was not an advantage specific to a 3-shift system. The disadvantages claimed were that frequent changes from day to night duty were tiring to the majority of staff; no one person was in administrative charge; it was extravagant in the

use of trained staff; and it was inflexible because the hospital was prevented from employing personnel who, for a variety of reasons, were unable to work the full cycle of duties; this led to difficulties in recruitment.

The biggest problem to overcome was the financial loss incurred by staff due to the loss of night duty payments, but fortunately the proposed changes coincided with a salary increase which more than compensated for the financial loss incurred by the new shift system. Staff therefore agreed to work the new pattern of duties on a trial basis and to submit criticisms for further discussion. The new pattern was now fully accepted as an improvement and the advantages which could be claimed for it were:-

> improved staff coverage (it was no longer necessary to close wards during holiday periods); night duty cover was greatly improved; more economic use was made of staff; and overtime had been eliminated.

As a result a 5-day week and straight shifts were being worked throughout the hospitals in the group.

The timing of day shifts in most areas was as follows:-

8.0	am	-	5.30	pm	x	2 days)	½ hour meal break and ten minutes courtesy break each shift
8.0	am	-	4.30	pm	x	1 day)	
12.30	pm	-	9.0	pm	x	2 days)	

Staff could have a split shift if preferred instead of 12.30 pm - 9.0 pm but few did. They could change duties provided they changed with an equivalent grade in their own unit. A number of part-time staff worked from 8.0 am to 12.30 pm and from 5.0 pm to 9.0 pm. Night duty was from 8.45 pm to 8.15 am on four nights.

Miss Byrne went on to describe the thoughts being given in her group to the introduction of the 40-hour week. On day duty it had been found, following the introduction of straight shifts, that there was a measure of over-staffing in the afternoons: it was anticipated therefore that the additional two hours off duty could be given on the day before the days off. Night duty presented special problems and consideration was being given to the possibility of giving an additional night off approximately every fifth week, but this posed problems with trainee staff transferring from night duty to day duty, and the Whitley Council recommendation was for an 80-hour fortnight. Another possible solution was a later start at 10.45 pm on one of the nights on duty, but this would probably create staff shortages on wards at the critical period and there might also be transport difficulties. There was also the possibility of a longer working day and a shorter working night. Day staff working on the two late shifts - 12.30 pm to 9.0 pm - could work 12.30 pm to 9.30 pm and have a 1.30 pm half day before their day off. Night staff could then work from 9.15 pm to 8.15 am on four nights. Currently this was the system most favoured. It was not anticipated that extra staff would be required but there would be additional costs because the hospitals in the group had a large number of part-time staff whose hours could not be shortened. With the introduction of the 40-hour week part-time staff would have to be paid on a pro rata basis of 40 hours instead of 42 hours.

MR A H M MITCHELL, Assistant Secretary, Scottish Home and Health Department, noted some historical facts concerning the hours worked by nurses. He quoted from "The Scottish Poor Law" by George A Mackay published in 1907 that "The conditions of a nurse's employment in a poorhouse should be such as would attract good candidates. A trained nurse passed through an arduous apprenticeship involving severe study and discipline. In return for this she expected to have a reasonably good apartment with access to bath and lavatory other than those used by the inmates; not more than 60 hours of duty per week; and an annual holiday of not less than 3 weeks. Some House Committees fell short of this modest ideal; nurses were crowded together in ill-furnished rooms; they were afforded neither time nor facility for recreation or study; and their working week frequently extended to 70 hours."

In 1943 the Scottish Nurses' Salaries Committee reported that "as soon as circumstances permitted, the normal working hours, except for those in supervisory positions, should be adjusted to 96 per fortnight." Spans of duty at that time were not to exceed 13 hours on day duty or exceed 11 hours on night duty and any additional working hours were to be compensated by the granting of additional off-duty time. By 1958 it had been accepted that an 88-hour fortnight should be brought into operation for hospital nursing and midwifery staff as soon as conditions permitted. The position in Scotland in January 1959 was that over 9,000 nurses out of 17,000 were working an 88-hour fortnight and about 1,000 more had had some reduction in their working hours, but the remaining 7,000 had received no reduction. This number included some nurses in hospitals where the 88-hour fortnight had been tried and abandoned.

In 1961 it was noted that a number of hospitals had still not implemented the 88-hour fortnight and in some of those that had certain undesirable practices had been introduced, such as the shortening of the patient's day by advancing the time of evening "lights out" and the lengthening of periods allowed for night nurses' meals. In 1964 it was agreed there should be a progressive reduction of hours to an 84-hour fortnight, exclusive of meal times, with the aim of full implementation by January 1966. The Staff Side, however, regarded the 1964 agreement on the 84-hour fortnight as an interim measure and subsequent to 1967 when negotiations were resumed various agreements were reached on, for example, the extension of special duty payments to the grades of Ward Sister/ Charge Nurse, payments for standing by in operating departments, and night duty payments from time and one tenth to time and a quarter, leading to the recent agreement on the shorter working week of 80 hours per fortnight due to take effect in January 1972.

The implementation of the 80-hour fortnight, or 40-hour week, would not be without its problems. For example, in mental hospitals where overtime was an addictive drug, staff regarded it as part of basic pay; this was not looked on favourably by the Whitley Council. The working hours which should be shorter could not be shortened effectively because of the increase in overtime. Generally speaking, hospitals could either re-schedule the business of the hospital and cut out unnecessary overlaps and duplication of nurses' time or they could seek an increase in efficiency by, for example, a reduction in coverage in circumstances where it could be said not to matter, resulting in less hours to man the service. If neither of these things were possible then hospitals should probably get more staff, but if this was not possible and there was no other way to achieve the 40-hour week the last resort would be to pay overtime.

Fundamentally there was a pressure to keep nursing and the level of nursing staff reasonable and this was a process which had been going on since the first World War. The characteristics of the hospital labour force had been changing over the years and hospitals now had a highly professional body of people who expected to be treated in the same way as others, and not as members of a closed order. Given that these standards existed something had to be done about the problems of meeting the needs of the service and at the same time granting reasonable hours for nurses, and it would therefore be necessary to marry the needs of the service with what the service could provide in the way of nursing manpower.

The terms of the agreement set out in NMC Circular No 159 were fundamentally simple as were the mathematics: the reduced hours meant a 5 per cent increase in the wages bill. Full-time staff would work shorter hours and the reduced time would be compensated for either by additional staff or by the payment of overtime to existing staff, and the pay of part-time staff would go up pro rate. It was the ramifications of implementing the agreement that would be a problem, but it was one which with goodwill on all sides could be solved.

DISCUSSION

During this conference three discussion sessions were held and the following were the main points to emerge:-

1 Needs of patients

A patient's physical, psychological and social needs were all of vital importance and, depending on how they were provided for, played a major part in determining nurse staffing requirements. It was doubtful if nurses needed to spend valuable time, sometimes up to ten hours a week (25 per cent of the new working hours), on dishing up food: placing food on a plate was not a nursing skill. What the nurse should be doing, amongst other things in helping patients through what for them might be a once-in-a-lifetime experience, was to help the patient make a decision about his own choice of food - a desirable feature of modern hospital catering.

Although it was said that personal clothing was more easily lost if sent to large central laundries (mainly designed for flat bed work), it was clear that nursing staff time spent at present on providing personalised clothes washing services for patients could be better spent on their physical, psychological and social needs.

2 Split duties

Experience showed that while the initial reaction in some hospitals to the elimination of split duties was not always favourable, after a few months' experience of working straight shifts staff admitted the benefits to themselves and the patients; this was regarded as a satisfactory development.

3 The long day

Some hospitals, mainly psychiatric, were, for the convenience of the staff concerned, still working the long day, ie usually a 4-day week or a 7 or 8-day fortnight. Where this was done - and questioned - staff had to admit they could not give of their best over a long day, particularly if they had other work interests outside the hospital on their days off. In such situations it was not unusual to find a high proportion of uncertificated sick leave absence among nursing assistants. It was also noted that the working of long day shifts created long breaks in the continuity of care and, particularly in mental hospitals, gaps in nurse/patient relationships.

4 Straight shifts

Various approaches to the best arrangements possible for straight shift working were mentioned. It was suggested that if ward sisters had to work a 5-day week, due to days off and early and late shifts there could be quite serious breaks in the continuity of ward management, and that the only way of avoiding this was to increase the numbers of nursing staff. In some hospitals however where the change to straight shifts had already taken place this had not happened: staff nurses were responsible persons and there was no reason why they should not be in charge of the ward in the absence of sister. There were a few hospitals where each of the two day shifts had a charge nurse, but even this was not without its problems, with patients sometimes being subjected to two different sets of ideas on patient care and the failure of those concerned to successfully co-ordinate their ideas for the benefit of the patient. It was agreed that overall there were strong arguments in favour of straight shifts and that hospitals should be encouraged to make the necessary changes as soon as possible.

5 Overlaps

It was stressed that in working a two day shift system there was a need for generous overlaps of up to, say, 2 hours to provide adequate time for induction training, in-service training and staff meetings.

6 Night duty

The view was expressed that the nursing care of patients during the night was more worrying than that of during the day, when the patient was in the care of not only more nurses but doctors and other supporting staff. Day shift nursing did not create the same tensions and nurses were generally less tired than those on the night shift, the shortest night shift being approximately 10.0 pm to 7.30 am, yet the quality of care given throughout the night could be more important. Other 5-day week workers on night shifts might work no more than seven hours per night as against the nurses' minimum of 9½ hours. It was appreciated that the timings of public transport to and from hospital had much to do with some of the present arrangements, but given adequate late night and early morning public transport there could be advantage in shortening the hours of night duty. Some hospitals had or were currently trying to introduce later starts for night shift at or around 11.0 pm but there was some staff opposition: the night staff apparently preferred to be on duty

when the patients were being bedded down for the night. In some hospitals discussions were taking place on the suggestion that night duty should be on the basis of three periods each of three weeks in any one year.

7 Overtime

As there was nothing in the Whitley Council agreements setting out limits to the amount of overtime that could be worked the limits permissible were a matter for local management, but where excessive overtime working was required there could be quite considerable criticism from the staff themselves and also from the management bodies. In addition, there was the all-important question of finding funds from existing resources to pay for overtime.

8 Meal intervals

Considerable discussion took place on the length of meal intervals: these ranged from ½ hour to 1 hour and were not included in the working week. This latter point was contested but it was noted that with the introduction of the 40-hour week nursing staff hours more closely approximated to the hours of other workers in the hospital service eg 40 for ancillary staff, 39 for pharmaceutical staff, 38 for administrative and clerical staff, and from 33-39 for different members of the professional and technical staffs. All of these hours were exclusive of meal times, the length of the latter being a matter for local management. Some staff preferred to take a quick snack rather than spend time in the hospital having a 1-hour break for a main meal. Half-hour meal breaks which included the time spent travelling to and from dining rooms appeared quite inadequate and hospitals might wish to consider a minimum main meal break of 45 minutes.

9 Tea breaks

The view was expressed that there should be a policy on allowing nurses to have tea breaks: other grades of hospital staff appeared to be allowed ten minutes for morning coffee and afternoon tea breaks. The decision on whether or not to allow tea breaks was entirely one for local management and it was noted that in many hospitals nursing staff were permitted to have 10-minute breaks, or where the dining room was distant from the place of work the break might be extended to no more than 15 minutes. There were differing views on where the tea break should be taken, some suggesting that it was desirable for the nurse to get away from the ward environment for a short spell while others suggested that nurses should have their tea in the ward area, properly set out on a tray and possibly in full view of the patients, thus ensuring that the nurses were available to deal with any emergencies which might arise.

10 Student nurse training

Whatever changes were necessary in the way of new style shifts to facilitate the introduction of the 40-hour week it was essential that they should not militate against adequate student nurse training and that every effort should be made to ensure that there was no diminution of standards.

11 Further review

It was noted that some of the presentations by the speakers had illustrated how the "Salmon" structure could be used for making decisions and for delegating decision making down to the appropriate level where it could be effective. The points brought out had also shown the flexibility possible in devising and implementing various types of shift systems. The conference had highlighted the need for nursing administrators to review the needs of both patients and staffs and to introduce new systems making the most effective use of the available staff time. There had been a sharing of views and opinions and expressions on how to implement the 40-hour week in 1972 by means of better staff consultation, by setting up working groups, by getting staff involved so that all knew and appreciated the problems they might meet. There would appear to be advantage in holding a similar conference in 1972 for the purpose of sharing experiences over a wide field, and to learn of and pass on the best solutions to problems encountered.

Scottish Hospital Centre
October 1971

Ambulance services

Meeting at the Scottish Hospital Centre on Friday 5 November 1971

This conference reviewed current developments in the pattern of the Ambulance Service in the light of the impending re-organisation of the National Health Service in Scotland. While considerable advantages were to be gained by greater co-ordination and centralisation of certain aspects of the Service, many speakers emphasised the importance of not overlooking the personal needs of individual patients requiring to be moved by ambulance.

EX-PROVOST R H BANKS took the Chair.

MR D J BUCKLEY, Secretary and Treasurer, Scottish Ambulance Service, noted that in Scotland the Ambulance Service, which since April 1967 had been administered by a Central Committee, was divided into eight regions, four coinciding with the north and east coast hospital regions and the remaining four being divisions of the western region. Each of these areas was served by a Regional Ambulance Committee which had the responsibility of keeping under review the quality of the service in the area and making recommendations to the Central Committee on improvements and developments and for participating in a number of staffing functions.

In shaping the policy for the service in Scotland the Central Committee had been helped by a general awakening of the need for a more professional ambulance service. The Millar Working Party* contained proposals for a higher standard of training for ambulance men and recommended the establishment throughout the UK of a number of residential training schools together with basic standards of equipment for vehicles and suggestions as to their type. On the recommendation of the Working Party an ambulance service Advisory Committee had been established which offered advice over the whole field of ambulance work and functioned through a number of sub-committees covering organisation and operations, equipment and training.

Professional advice was offered to the Central Committee by a medical and training sub-committee which advised on matters relating to the professional training of ambulance men, the design of equipment and ambulance vehicles and the health and fitness of ambulance service staff.

The main factors which affected the ambulance service commitment were (1) the concentration of hospital and specialist services on district general hospitals and the centralisation of accident units; (2) the continuing pull of teaching centres which had always attracted both in and out-patients from long distances; (3) a steady increase in demand in terms of numbers of patients carried resulting from an increase in accident and emergency cases, more out-patient and physiotherapy attendances, the development of day hospitals and the effect of the policy of early discharge from hospital and the use of second line beds; (4) a reduction in the level of public transport in certain areas; and (5) an expectation throughout the country of a better quality in service provided.

* Ministry of Health and Scottish Home and Health Department. Report by the working party on ambulance training and equipment. /chairman: E L M Millar/ London, HMSO, 1966.

To meet this general changing pattern a number of developments had been introduced over the past few years.

A residential training school, established in 1969, provided training courses and shorter periods for refresher training, this being supplemented by the in-hospital training which had been started at a number of hospitals in Scotland.

To improve the management of the service, a review of the officer structure had been undertaken to provide better operational organisation and a career structure. Management training courses had been started for junior and middle grade officers and at a more senior level officers were being included in the multi-disciplinary health service management training courses.

Apart from a limited number of sitting-case ambulance vehicles in Glasgow and Edinburgh, the service had relied on a single multi-purpose vehicle which had progressively been improved. No commercial manufacturer was at present prepared on economic grounds to build a purpose designed ambulance vehicle. It was noted, however, that if such vehicles were to be built, costs were bound to increase sharply and accordingly the adaptation of a standard commercial chassis to accommodate an ambulance body was a situation which had to be accepted. Given these limitations, efforts were being made to improve the suspension and the ride of the vehicles.

The current policy was to replace vehicles at the end of a life of seven years or 140,000 miles, this being possible because of the progressive improvement in maintenance brought about by the establishment of a central repair organisation. £17,000 was being spent in the current year to bring every ambulance vehicle to the level of basic equipment recommended by the Millar Working Party Report (this included the provision of cellular blankets and pillows); a further £8,000 was being spent on the purchase of portable battery operated aspirators which would be carried in ambulances, mainly in the rural areas; and the distribution of this type of equipment would gradually be extended. Washhand basins were being provided in new ambulance vehicles and also in vehicles already in use, and every ambulance vehicle in Scotland was radio controlled.

Although the present quality of ambulance depots was in the main poor, a building programme which had run until the current year at a level of £75,000 had been increased to £800,000 by March 1973. To cope with this large increase in capital expenditure two standard plans, one for small depots and another for larger depots of six vehicles or above had been devised. These would include, in addition to garaging and servicing facilities, adequate staff locker rooms, mess facilities and storage for a wide range of ambulance equipment.

A considerable number of other improvements were under consideration. These included increasing the employment of full-time trained ambulance service personnel, expansion of the double manning of ambulances throughout the country, an improvement in the organisation for timing ambulance journeys to and from out-patient clinics and, in this connection, it was proposed to establish a number of posts of ambulance liaison officers at major hospitals.

To assess the requirements of the service the operational research department of the University of Strathclyde had been commissioned by the Central Committee to carry out a project designed to improve the service provided

to hospitals. Using the arrangement of a single hospital out-patient officer and an ambulance liaison officer, an experiment had been conducted at Law Hospital, Carluke and, whilst some improvements had been made as a result of this, it appeared that a considerable amount of further refinement would be necessary to produce a satisfactory out-patient programming system. It was anticipated, however, that this project would produce information which would be of considerable help to the service in considering policies for the future. It was hoped to achieve some formula for calculating and forecasting resources required for the future and also to receive advice on the type of data which should be prepared to enable management decisions to be made in the future.

Other reviews undertaken included an investigation into the merits of the two tier ambulance system, ie an arrangement whereby a proportion of the fleet in an area was reserved for accident and emergency work, and a survey into the misuse of the ambulance service by patients.

In conclusion Mr Buckley noted that for each category of patient - accident and emergency; out-patient and physiotherapy patients; day hospital patients; and admissions, discharges and transfers - the objectives of the Ambulance Service had to be established in relation to reaction time, quality of service and speed of service. It was necessary to determine what resources were necessary to fulfil each of these objectives and how far these resources could be inter-related.

DR G W BALFOUR, General Medical Practitioner, Jedburgh, spoke from the viewpoint of a family doctor practicing in a rural area. He pointed out that doctors working in the country often felt that their problems were not fully understood or appreciated by the city orientated mind, and problems peculiar to providing an adequate ambulance service for a large sparsely populated rural area were no exception. Long journeys over inadequate country roads to a variety of scattered hospital centres were the order of the day and often complicated by winter hazards.

He considered that in general the Borders ambulance service functioned satisfactorily, particularly between the local general hospital at Clovenfords, Galashiels and the rural periphery. Problems tended to arise, however, when other hospital centres became involved although any shortcomings in the service were probably due to lack of appreciation of the situation rather than oversight on the part of the authorities.

It was most important that hospital staff should remember to order ambulances for patients attending follow-up clinics who resided some 30 - 50 miles away. Some wards also when discharging in-patients failed to appreciate the distances patients might have to travel to reach home and, in particular, Dr Balfour felt that in the case of the early discharge of maternity cases, where a journey of some 40 miles or more to the Borders was necessary, such patients should be treated as stretcher cases and not allowed to sit in ambulances or private cars. This was particularly important when it was appreciated that patients were sometimes conducted on a 'milk round' and on occasion even have had to change ambulances before reaching home.

The ambulance service should consider very closely the implications for itself on proposed cuts in local bus and rail services. Although a patient might be fit to travel by public conveyance, the situation would very soon arise in some parts of the Borders where no such transport was available and the ambulance service would have to meet this problem. In

this connection the ambulance authorities had to date tended to resist the introduction of mini buses but Dr Balfour felt this would shortly be forced upon them. Although 'milk rounds' were still and likely to remain in practice, more liberal use of the WRVS car service might alleviate this problem since it was felt that in some areas this service had not been used as much as it might have been.

Further points requiring consideration included the need to provide a suitable type of ambulance for long country journeys and also consideration of the delay that sometimes occurred in returning a nursing escort to her place of duty after a journey. Frequently also a driver and emergency van had to make a lengthy trip to assist with a two man lift and although it had been suggested that double manning would be the answer, it was thought that some alternative and more economic method of coping with this situation could be devised.

Although the more populous areas had no doubt had some form of central ambulance control for many years, this was a relatively new innovation for rural areas and, while it had many advantages, it was felt in the country areas that the old system incorporated a much more personal approach. Under this system the doctor had more daily contact with the local driver and regarded him as one of the team; he had been at liberty to approach the driver personally and could also discuss all aspects of the case to the mutual benefit of all concerned. In the new situation the doctor rarely had any communication with him at all. The system was much more objective. All instructions had to be relayed by telephone which in turn had to be passed on to the driver who would do the run and inevitably sooner or later something went astray. Dr Balfour stressed that he was not suggesting that he would wish the old system to be reinstated but rather that some of the best features of it might have been retained under the present arrangements. For instance in country areas where the local driver would be dealing with most emergencies, it seemed desirable, particularly between certain hours, for the general practitioners to be allowed to approach his local driver direct rather than arranging for him to be contacted via a central control point.

The viewpoint of a patient was given in a brief contribution by MISS M BLACKWOOD, Chairman of the Disablement Income Group, Edinburgh, whose experiences of ambulances had covered the period from her early childhood up to the present day. She remarked on the varied quality of service provided ranging from uncomfortable journeys in country situations with vehicles unsuited to the poor quality of roads to quick efficient transport in the urban areas. The quality of service indeed fluctuated greatly between different areas. For instance, Miss Blackwood recalled an episode with an ambulance in rural Wales, when after an accident, she found the service provided of the highest quality. Also in some situations while comfortable mobile stretchers which could be elevated were provided, in others, although attendants were as patient and gentle as possible, the equipment often seemed primitive.

Having travelled in many ambulances and met many strange companions, Miss Blackwood's experiences were extremely varied and the level of service encountered somewhat erratic. Recently she had found the ambulance service under considerable strain. There did not appear to be sufficient vehicles available and staff frequently seemed harassed and tired. Long waits in out-patient clinics for transport home increased tensions and tiredness, two qualities which were not beneficial to the disabled who had always to seem alive and alert in their efforts to benefit their cause.

Ambulance men could make or break a journey and although a high degree of training was necessary, there was a need for flexibility in their methods of handling patients in particular those who suffered from disability and required the use of aids. There was little doubt that a human approach to the individual situation was essential on the part of staff moving patients by ambulance either short or long distances and the provision of the service for the overall benefit of mankind should be the prevailing factor of which staff were principally conscious.

MISS H C GRIFFIN, Departmental Sister, Western General Hospital, Edinburgh, spoke with particular reference to the ambulance services provided for out-patient and accident and emergency departments. In these special areas Miss Griffin described the service as one which was enjoyed in what was perhaps best described as a 'love hate' relationship. On the one hand one could not fail to recognise the excellent service given particularly in the case of emergencies while on the other one was faced with irate, resentful and often very sick people who were kept waiting in out-patient departments for what appeared to be unduly long periods of time.

The waiting lists for out-patient appointments never seemed to get any smaller. With the increase in the number and variety of clinics the demand for ambulances and the hospital car service grew and, in the case of many orthopaedic and geriatric patients, this meant the need for a two man ambulance crew. In the new out-patient building at the Western General Hospital two rooms had been planned and set aside for the ambulance control and drivers, but it had not as yet been possible for a member of the service to be permanently stationed there.

Miss Griffin outlined the policy for arranging and ordering ambulances to the out-patient department. If a new out-patient required an ambulance this was authorised and arranged by the general practitioner; thereafter the decision regarding the need became the responsibility of hospital staff. When an ambulance was to be re-ordered this was noted on the appointment card and, for a return visit, the appointments officer was responsible for the ordering. A list of patients and times of appointments was sent three days prior to the date of the clinic to the appropriate ambulance control.

All patients who had been brought in by ambulance were taken home by one except on the odd occasion when this was not felt necessary. The request for an ambulance home was made by the receptionist in the clinic area who contacted the appropriate ambulance control and stated whether double manning was necessary.

Problems encountered by patients coming in to the out-patient department included the failure of ambulances to arrive, lateness particularly for geriatric clinics and not infrequently the far too early arrival for an appointment. Very occasionally also drivers were unwilling to wait for patients not quite ready to leave. Miss Griffin noted, however, that after careful investigation the situation was showing a steady improvement and indeed the overall problem of getting people into hospital seemed small in comparison to arranging their return journeys.

Long waits for ambulances taking people home or back to other hospitals were quite common and patients, having attended clinics at 2 pm, had not infrequently to wait until after 6 pm before ambulance transport was available. Even after this a 'milk round' was frequently entailed. Problems also often arose due to the apparently poor communications

between the person who received the request for the ambulance and the ambulance crews.

In the case of the day bed area, which was a unit where patients came in for minor operative treatments in the morning and were usually ready to go home the same day, good co-operation had taken place by all concerned and only a few criticisms were made about the length of time it took for patients to reach home.

In Miss Griffin's experience the service provided for the accident and emergency department was extremely efficient. The provision of a direct radio link to warn the department of emergency admissions would, however, be desirable and enable the hospital staff to get early information on accident cases before their actual arrival at the department.

In the case of in-patients being transferred to other hospitals and convalescent units the arrangement was for these patients to be congregated in one area of the hospital prior to being collected. Due to late arrivals of ambulances, however, this arrangement had not proved wholly satisfactory in that this special area was not staffed and the patients frequently found the wait extremely tiring. Miss Griffin indicated that while the hospital staff made every effort to co-operate with the wishes of the ambulance service, this could not take place at the expense of the patient.

DR C P LOWTHER, Consultant Physician in Geriatric Medicine, Eastern General Hospital, Edinburgh, outlined the functions of the day hospital and its transport requirements. A day hospital provided cheap extra hospital support for patients otherwise needing hospital care, one aim being to economise on the overall number of beds required. The patients attending were ambulant, continent and in the main reasonable, some coming for re-assessment although the most for rehabilitation. 6% walked with aid or aids, 25% walked unaided and 15% required a wheelchair or greater support. The conditions which they suffered from tended to be arthritis (30%), cerebro-vascular accident (30%), cerebral arteriosclerosis and Parkinsonism (20%) and mixed causes (20%). The types of transport required were very varied and long transfer journeys from one end of the country to the other were often difficult to organise so far as geriatric patients were concerned. It was suggested in this connection that it would be helpful if hospitals were to run their own mini-bus services from within their own resources and the advent of Area Health Boards might help to rationalise the financial side of ambulance services and also enable them to be organised according to area needs.

To place the elderly in competition for services of any description with younger people would always result in their being in a disadvantageous position and in this respect ambulance services were no exception. All non-acute ambulance services were indeed prejudiced by the accident cases and, although these represented only 5% of all ambulance journeys, consideration should be given to providing a separate accident service which would not interfere with the major commitment (95%) of transporting "taxi" cases. From experience in day hospitals it had been found that the provision of their own ambulance was the only reasonable way of running this kind of service. In this way the ambulance drivers became identified with the day hospital service and could be instructed in the individual requirements of patients. This often took some time to learn as ambulance men had to think in terms of the patient being fully reinstalled at home before being left. Drivers also had to learn to sound

an alarm if a patient did not answer the door. There was a great need for the rationalisation of catchment areas and at the day hospital at Queensberry House, Edinburgh the catchment area had been decided purely on a basis of ambulance accessibility.

The characteristic of the relationship between hospitals and the ambulance service was rigidity. The argument seemed irresistible that, if two services of an entirely different type were to be run, two types of vehicle would be required. One group of small quick vehicles for accident services and one larger type for 'taxi' services. Dr Lowther indeed suggested that 'taxi' services should be the responsibility of the hospitals and be organised from there with ambulance controllers reinstalled at all major units.

In the case of out-patient attendances, ordering ambulances in advance for the second and any subsequent appearance should be done by the patient's general practitioner and not many weeks in advance by hospital staff who were quite unable to estimate the patient's condition at that time. Hospital doctors should also visit patients in their homes more frequently, thus saving much ambulance time and also, incidentally, making the doctor's activities more effective than under the present arrangements.

Dr Lowther considered that the voluntary and 'semi-military' image of the ambulance service was probably out of date and emphasised that it was now desirable for the service to be organised on the catchment areas of the proposed Area Health Boards. In conclusion he suggested that the English Local Authority services seemed to operate more satisfactorily, certainly so far as day hospital provision was concerned, since it seemed to him that doctors working in day hospitals south of the Border seemed to meet few difficulties relating to ambulance services.

MRS E M GREGOR, Women's Royal Voluntary Service commented on the hospital car service of which she was the national organiser. The service had originated in 1938 during a period of international tension when 14,000 owner drivers throughout the United Kingdom volunteered their help in the event of a national emergency. During the war it had been used to carry casualties to first aid posts, maternity cases to hospitals, war wounded to convalescent homes and also for the transportation of hospital supplies and specimens. By 1944 there were 570 voluntary car pools with 20,800 cars. After the war this pool ceased to function but, in order to help both hospitals and patients, a hospital car service was set up under the joint organisation of the WRVS and British Red Cross. Since then the service had continued to expand and in 1970 there were some 620 voluntary drivers in Scotland who carried 79,000 patients a total of almost 1,160,000 miles.

The hospital car service was run on a regional basis, the WRVS divisions approximating to the Regional Hospital Board areas. Locally the service was the responsibility of a transport organiser who had a team of drivers upon whom she could call, the driver's time being given voluntarily although a mileage rate was payable. The service was adapted to suit local requirements and, with the trend towards centralising hospital services and the reduction in levels of public transport in rural areas, the problem of transport to hospital had become more acute. This situation had recently led to the revival of some branches of the service in certain areas.

The aim of the hospital car service was firstly to help the patient, in particular the elderly, the frail and mothers of young children for whom

a long journey by ambulance could be a severe trial. Another object lay in relieving the ambulance service of transporting sitting cases and this constituted the majority of the service's work in the cities; in Edinburgh, on a normal week day, transport for about 130 patients was laid on. As there was no commitment to deal with emergency calls, the advantage of the service rested in its ability to get the patient to hospital at the appointed time and collect him promptly after examination or treatment.

The disadvantages to ambulance control in using this service were that at least 24 hours notice was required for the organisation of transport and that in severe weather conditions a voluntary driver was always at liberty to refuse to risk undertaking a particular journey. In the North-Eastern and Highland Divisions, however, the 24 hour rule did not apply as there was frequently no transport available other than the car service and the local doctor had direct contact with the WRVS organiser. Mrs Gregor noted instances where general practitioners were unaware of the existence of the service in their area and explained that it was the responsibility of Regional Hospital Boards to inform doctors and hospitals of areas where it was available.

The service did not presume to claim that a patient was better off in a WRVS car, but did believe that some types of patient would suffer less if selective use were made of the service. It was noted that such selective use had recently been demonstrated in Edinburgh where dialysis patients had been transported home after overnight treatment to outlying areas. By ambulance this would have meant that a vehicle would be unavailable for three or four hours in some cases at a peak period.

From 1st April 1972 financial responsibility for the hospital car service would pass from Regional Hospital Boards to the Ambulance Service. In order that the new arrangement might start with the advantage of an up to date assessment of the service required, joint meetings had been held in each region as a result of which it was hoped that a greater understanding would emerge of the uses of the services available for the greater benefit and comfort of the patient.

DR J K ANDERSON, Group Medical Superintendent, Board of Management for Glasgow Royal Infirmary and Associated Hospitals, drew attention to the out-patient commitment at Glasgow Royal Infirmary which amounted to 500,000 attendances per year of which 18,000 required ambulance services. He noted that for patients attending for special treatments, the arrival time was important since with the ever increasing load of out-patients it was essential to make the most of the time available in terms of number of appointments and consultant availability. Importance must also be attached to departure times so as to enable patients to get home when expected.

Stricter rules for authorising the use of ambulances were desirable and a study by the Department of Epidemiology at Glasgow University had shown that in the Glasgow area 5% of journeys by ambulance could be categorised as misuse; this represented in Glasgow Royal Infirmary a total of 900 journeys per year.

Many improvements had taken place since the last conference on the same subject at the Centre in 1968 but much remained to be done. In particular a co-ordinating ambulance officer of sufficient status and preferably an ambulance service employee should be present at hospital level. He would require a good knowledge of both the ambulance and hospital services

and by developing personal contacts would smooth out lines of communication and co-ordinate inter-related functions of both services. As out-patient department appointments were usually fixed well in advance it was also desirable that the ambulance service should be given early warning of the out-patients for whom they would be expected to provide transport. There was also scope for increase in the use of the WRVS car services and, since 60% of all out-patients using ambulances were attending for some form of physiotherapy, this commitment might be reduced by increasing the level of domiciliary physiotherapy which could in any event often be more beneficial to the patient than that provided in hospital departments.

Training programmes for ambulance personnel were of considerable significance and importance. The training school at Gartloch Hospital had got off to a satisfactory start and it was significant to note that to date 355 ambulance personnel had attended the 6 weeks' training courses and 254 the 2 weeks' courses. Efforts were also being made to provide further training for contractors who provided the service in outlying areas such as the Highlands and Islands and the Borders. Management programmes for officers were also valuable and there were plans to expand the school premises and to increase the services provided.

Dr Anderson concluded by outlining the preliminary findings of the operational research programme carried out by a team from Strathclyde University and indicated that it was hoped the final report, which would appear in due course, would highlight several problems and offer suggestions as to methods which would help to improve the overall efficiency of the service.

DISCUSSION

In the course of two discussion sessions the following were the main points to emerge:-

1 Personal service

The need for a personal service for patients was emphasised, and a degree of flexibility and relaxation in the regulations controlling the movement of ambulances would go some way to meet this requirement. More access by the general practitioner to ambulance personnel would be helpful so that he could advise on the nature of the patient's illness and types of care in transport required. The importance of having a working knowledge of the local situation was also stressed and it was noted that the Central Committee was at present carrying out a review with the aim of increasing information on conditions as they affected particular areas.

2 'Milk round'

Although the so called 'milk round' had obvious disadvantages in terms of time factors, it was pointed out that, particularly in rural areas, there was little prospect of its being avoided. Many patients who were involved in such journeys frequently tended to become exhausted with consequential suffering to their health and it was desirable that every effort should be made to keep such journeys to an absolute minimum.

3 Public transport

Accepting that there was a general contraction of public transport facilities in rural areas it was pointed out, however, that there was a tendency on the part of the public to assume that public services were not available. This could lead to an unnecessary load being put on the ambulance service and it was suggested that local communities should be encouraged to provide a general service to meet the needs of their own particular areas. In this connection it was noted that local authorities could finance minor services of this kind without being affected by licensing restrictions.

4 Service tiers

Various speakers suggested that the decision to organise the ambulance service on a one tier basis, ie not setting aside a special service for emergencies, should be reviewed. It was noted, however, that accident cases only amounted to 5% of the total service commmiment and it would therefore be uneconomic of total resources to set aside a number of ambulances for this purpose. To have an empty ambulance standing by waiting for a particular situation to occur was less satisfactory than redirecting one already in operation for other cases and, indeed, making all vehicles available for any type of case enabled 'low priority' patients to be returned home more quickly.

5 Waiting points for collection

Problems encountered in collecting patients for return home were frequent. As far as patients were concerned, it was a more satisfactory arrangement for them to be collected from wards and departments particularly as in nearly every situation no purpose built accommodation was provided for patients to gather in prior to collection. The collection of patients from one area certainly was easier from the point of view of ambulance service but was not generally to the benefit of patients. It was most desirable that patients, who required supervision and assistance with toileting should be kept in the ward or department prior to collection in the absence of suitable purpose-built accommodation being provided at a central point.

6 Timing of hospital appointments

The need for flexibility in the timing of hospital appointments was emphasised. Frequently these appointments were made on an arbitrary basis with little consideration for the needs of the ambulance service which consequently often had difficulty in organising the service to get patients to hospital at the necessary time. The main problems related to timing seemed to exist in large teaching units where different departments often had their own appointments systems. Much of this problem was due to the diffuse structure of the hospital service, appointments being given randomly, and there was an urgent need for appointment systems to be co-ordinated with the ambulance service. There were decided advantages in the arrangement whereby an ambulance control officer was in post at hospital level particularly if this officer co-ordinated arrangements in the appointments office.

7 Documentation

It was suggested that in some situations the method of documentation employed in dealing with the ambulance service might be simplified.

Proliferation in the number of forms in use sometimes led to errors in transcription but it was noted that in the Central Committee's experience there had not been many instances of problems arising in this way.

8 Re-organisation of National Health Service

With the impending re-organisation of the National Health Service it was felt appropriate that a re-assessment of the organisation of the ambulance service itself was appropriate at this stage and also that it would be desirable for the definition of the 'need' for a patient requiring an ambulance to be clarified. Consideration was at present under way as to the nature of the administrative organisation and it was noted that this might be on a national basis with a local health board interest.

9 Communications

Communications as with many other services presented its problems. There were considerable advantages in the service being organised on the basis of having radio contact on an area basis rather than with one local ambulance situation, although an example was cited of a department being serviced by one driver who co-ordinated times providing a most satisfactory service in this way.

10 WRVS car service

Considerable appreciation was expressed for the work of the WRVS car service which provided facilities for 4% of patients requiring transport to and from hospitals. It was desirable that the greatest possible use should be made of this service and that efforts should be made to overcome any ignorance of its existence which might exist in certain local situations.

11 Planning, liaison and costs

It was suggested that in planning hospital developments the cost of transporting patients should be taken into account in consideration of the revenue expenditure entailed in any scheme. There was a definite need for discussion with the ambulance authorities at the planning stages of any development and it was noted that the service had already in post a planning and liaison officer for this purpose. It had become evident from the Strathclyde project that to give a satisfactory service the present arrangements were very costly and that, to improve this service within the existing resources, much more co-ordination of services was required. It was indeed suggested that if a patient used an ambulance purely for 'taxi' purposes a charge for this service might be imposed. In terms of overall finance the hospital service had by far the biggest commitment but to meet existing problems it was essential that there was active co-operation by both sides with equal appreciation of each others problems.

12 Domiciliary physiotherapy

It was noted that, in cases where patients were too frail for transportation by ambulance to hospital, physiotherapists frequently recommended to senior medical staff that physiotherapy should be undertaken in the patient's home and in practice this took place as frequently as was possible.

13 Day hospitals

In the establishment of day centres it was most desirable that discussions should be held with ambulance officers to ascertain in advance the optimum catchment area which could be served in terms of transporting patients to and fro. Although in some situations such an area had been arrived at on a fairly haphazard basis, from experience it was usually found that it was necessary to establish a day hospital on the basis of a somewhat tight catchment area.

Scottish Hospital Centre
November 1971

Hospital supplies

Meeting at the Scottish Hospital Centre on Tuesday, 21 December, 1971.

This conference was arranged to enable members of the Steering Committee on Hospital Supplies to hear the views of a wide range of Hospital Service personnel on the possible role and place of the supplies function within a re-structured National Health Service.

SIR RONALD JOHNSON, Secretary of the Scottish Home and Health Department and Chairman of the Council of Management of the Scottish Hospital Centre took the Chair.

MR GEORGE ROBERTSON, Assistant Secretary, Scottish Home and Health Department, in opening the conference stressed the importance of the supplies function to the efficient running of the hospital service. Hospitals had extensive and heavy requirements for goods, not only to enable them to give appropriate treatment to patients, but to house, feed and clothe both staff and patients. In a sense, each hospital was a hotel providing full services for residents, and moreover one which was always full, in addition to being a unique institution encompassing a very wide range of activities. It was not surprising therefore that the total requirements of the hospital service for goods was very great - total costs in Scotland being over £20m per year - but because the hospital service was not a monolithic institution, but a collection of separate and distinct units, the scale of hospital purchasing tended to be overlooked.

There were also special factors which complicated the provision of supplies and equipment and these included recognition of the need for a variety of clinical and nursing techniques. Some techniques were indeed experimental and it was essential to continue with this experimentation if the momentum for improving health care was to be maintained. It must also be recognised that the application of established techniques might have to be varied at short notice and for subjective reasons to meet the needs of particular patients. While the Department recognised therefore that there might be scope for financial savings by a rationalisation of procurement of supplies it had always been reticent about imposing central decisions on the Hospital Service. Nevertheless it was in everyone's interest to eliminate waste where possible thus releasing funds for other hospital service purposes.

It was noted that in 1948 the hospitals transferring to the NHS had two quite different traditions; the former local authority hospitals were accustomed to having their purely hospital supplies purchased as part of contracts covering all hospitals administered by the local authority concerned, and other supplies purchased as part of contracts covering not only other hospitals but other services (eg education) in the local authority area. These traditions had persisted for some time after the appointed day and indeed it was doubtful if even now they were completely out of use. It was perhaps for this reason that the NHS (Scotland) Act 1947 and its regulations were not in precise times so far as the supplies function was concerned. The duty was placed on Regional Hospital Boards

to arrange for the procurement of supplies and equipment within their own regions and, although the Regional Boards under schemes prepared by them delegated responsibility for this function to their Boards of Management, as early as 1952 regional contracts were in being for certain items. There followed the introduction of central or national contracts, the Department and the hospital service having found that central contracts let by the health departments nationally, with advice and assistance where appropriate from other government departments, could provide for common user items to be purchased at very keen prices.

It was worth noting that the development of supplies in Scotland differed from that in England and Wales where the powers for acquiring and maintaining supplies and equipment were confirmed by regulation on Hospital Management Committees and Boards of Governors. The English and Welsh Regional Hospital Boards thus had no power of responsibility in the supplies field until the recommendations of the Hunt Report* were implemented in 1968. In Scotland the regulations made under the 1947 Act recognised the special position of the Secretary of State and specifically provided that nothing in the regulations should affect the power of the Secretary of State in relation to the provision of equipment, furniture etc.

As far as the place of the Department in the supplies function was concerned, there were two main reasons for their interest; firstly the desire of the Government to ensure a general supplies policy in the public sector and secondly the Department was the only central authority available to undertake work on central contracts. In other words there was both a policy and executive interest and an essential part of the first was public accountability.

The Secretary of State was responsible to Parliament for the National Health Service and the Secretary of the Scottish Home and Health Department being Accounting Officer was required to answer to Parliament and in particular the Public Accounts Committee for NHS expenditure. The great bulk of the money required to run hospitals in Scotland came from the Government or, more precisely, was voted by Parliament annually to the Secretary of State. This in turn was allocated annually to Regional Boards who re-allocated to each Board of Management. In due course all accounts were brought together and presented to Parliament by the Department. Government auditors looked at the acounts in general and, on a sample basis, in detail. The report of the Government's chief auditor (the Comptroller and Auditor General) on the Department's account was presented to Parliament where the House of Commons Select Committee on Public Accounts considered both the report and the account and would usually call the Accounting Officer to appear before them to answer questions. Hospital supplies both in Scotland and in England and Wales were featured regularly in discussions on Public Accounts Committee, the Committee referring in particular, for example, to unco-ordinated purchasing policy leading to different authorities paying different prices for the same item. The Department was required, therefore, to have regard to the points made and to do what they could to remedy deficiencies in the system which came to light.

Concerning the executive function of the Department's supplies branch, as the supplies function had evolved through regional contracts to national contracts and, as the PAC had pressed for more rationalisation in purchasing, the hard fact was that the Department was the only central body who could undertake this work. Although this gradual development

* Ministry of Health. Report of the committee on hospital supplies organisation. / chairman: J.F. Hunt/. / London, M.O.H., 1966/.

was taking place, the increasing rate of completion of new building projects involving heavy expenditure on supplies - in particular new sophisticated electro-medical equipment - and the needs for reduction of variety or standardisation of specifications had led Department officers to conclude that a searching examination of the supplies function was overdue. This had resulted in England and Wales in the Hunt Committee Report and in Scotland the Working Party set up to review the position had reported in 1969*. The remit of the Working Party was a broad one, namely "to consider the general arrangements for the provision of supplies and equipment to the Scottish Hospital Service and to recommend how these should develop in the future to give the most efficient and economic service consistent with the needs of hospitals". It was important to note that it was not the task of the Working Party to recommend the way to obtain the cheapest supplies. The discussions were long and wide ranging and three points in particular had emerged:

(1) The need for better communications from the centre down the line to the consumer. This could be by ensuring that information was available for all potential purchasers to see and that they should know where to go for items. The recent Hospital Purchasing Guide would, it was hoped, help to bring together supplies information for the purchaser. Visual displays of supplies available were also of considerable value and in this respect the series of exhibitions held at the Scottish Hospital Centre was a most valuable factor.

(2) The need for variety reduction was well founded if an efficient supplies function was to be developed. This did not mean dull uniformity nor necessarily central contracts, but rather that contracts should be placed at the optimum level, account being taken of estimated uptake, size of firms etc.

(3) The need for a strong central authority to provide the necessary focal points for the developing supplies organisation. This was regarded by the Working Party as probably the most important factor but it was equally divided on whether this authority should be part of the Department or the Hospital Service. With a re-organisation of the health service likely and some uncertainty about the role of Government in public purchasing, the Working Party recommended that there should be a planned development of the existing organisation in the Department and the Hospital Service to take account of the developing nature of the function with a further review in four or five years. Arising from consultations with Regional Boards and other interested bodies on the report, the Department suggested that, during this interim period, a Steering Committee representing the Regional Boards, Boards of Management and the Department should be established "to keep under review general supplies policy in the Hospital Service, having regard to Government purchasing policy and plans for the future organisation of the health service and to make recommendations to the Secretary of State". This suggestion was accepted by all and approved by the Secretary of State. The Committee had therefore now been established and had already shown that it had a real part to play in the rational development of supplies in the Hospital Service.

In conclusion Mr Robertson noted that supplies was one of the most important functions of the Hospital Service and it must be recognised as such by all. Planned purchasing had to be developed if the supplies function was to match other advances in the Hospital Service and if hospital staff were to have the equipment they needed to do their work efficiently. Most

* Scottish Home and Health Department. Report of the working party on hospital supplies organization in Scotland. /chairman: G. Robertson/. Edinburgh, SHHD, 1969.

that all the facts were established and all points relevant to the issues had been obtained, and to go as far as possible towards eliminating differences of opinion.

In addition to variety reduction the Committee was expected to look at the existing levels of contracting within the Service and to try to determine an optimum level for each commodity. It was unlikely that one would ever get an ideal contract which provided requirements at a keen price with speedy delivery to every hospital, and which provided exactly the article which everyone wanted, but, nevertheless, however good the current arrangements were, these should be kept under review and wherever a different way arose to do things in a better way, this should be investigated. To review the levels of existing purchasing, the Department would have to acquire detailed information on current practices from the Service and although Committee members were well aware of the problems entailed in the completion of statistical returns, it was hoped that the hospital officers would find it possible to provide the information requested without too much difficulty.

Mr McCall noted that in the supplies field as in any other health service activity affected by re-organisation, he expected that the Secretary of State might well wish to consult over a wide range of interests. Nevertheless the Committee as it proceeded would inevitably be drawn to look ahead, and in the nature of events its individual members would begin to form views. Any collective responsibility it might have in this respect, however, had not been made clear. At a minimum evaluation, the process of more effective consultation with the Hospital Service and the collection of information on current practice which the Steering Committee hoped to undertake could not but be of assistance to the Hospital Service supplies users. At best a greater knowledge of service needs might influence the pattern of the future arrangements; at worst any traditional phase could be undertaken with greater understanding of what was involved.

The total cost of supplies and equipment to the Hospital Service in Scotland was currently running at the rate of over £20m per year; one per cent of this sum was £200,000 and if this could be saved this amount would remain available to the Service to spend on some other desirable end. There might be many areas in which this one per cent could not be saved but it was indicative of the scale of potential saving which in one way or another every member of the Hospital Service was involved.

DISCUSSION

In the course of the discussion the following were the main points to emerge:-

(1) Quality and type of equipment - the need for evaluation

Although it was noted that in most instances the more sophisticated type of equipment proved quite satisfactory in use, complaints were frequently made about the more simple items such as bath towels, nurses' uniforms etc. Although apparently great care was taken in the choice of materials the article eventually supplied often did not fulfil requirements and it was suggested that a Board officer should be designated to undertake a type of "market research" with a view to identifying precisely the items required. There was a need to feed back information immediately to manufacturers whenever

problems arose concerning their products and this emphasised the desirability of establishing some form of evaluation of supplies at hospital level. It was noted in this connection that it was one of the functions of the officer at Regional Board level designated to deal with supplies to follow up problems such as these and the head of each department had a responsibility to consider and make known any deficiencies apparent in the quality of supplies made available. On a wider basis one example was given of samples of all regional contracts (excluding perishables) being taken prior to issue and centrally it was indicated that the Department was prepared to commission outside agencies to check the quality and suitability of various items. It was essential that in the development of highly sophisticated electro-medical equipment, for example, considerable examination had to be undertaken before it was accepted into service from the safety point of view and the Department, being well aware of this need, appreciated that some evaluation unit for this type of equipment might have to be established, although again such work might be commissioned of some specialised departments already existing within the hospital service. The view was expressed, however, that, in view of the obvious importance of assessing and evaluating a whole range of supplies required by the Hospital Service, a lead should be given centrally by undertaking this function on a nationally co-ordinated basis. In general it was suggested that too much emphasis was placed on the establishment of contracts and not enough on the quality and type of article supplied and, although some form of testing service over the wide range of supplies was indeed desirable if not essential, there was little doubt that the establishment of a comprehensive service of this type might be inhibited to some extent by the level of finance required to run such a set up.

(2) Standardisation

Considerable advantages were to be gained by the introduction of standard procedures throughout hospitals. In terms of efficiency and financial saving, if national standards could be arrived at these could in turn be passed on to manufacturers who could in turn produce articles in bulk which would be acceptable to the Hospital Service as a whole. In the field of disposables it was suggested that too many manufacturers were competing for too little business and it was stressed that it was essential to standardise practices before supplies. Within a comparatively small country there were at present many variations in organisation and methods of stores procedures and control; on the face of it this was somewhat incongrous and there did seem a need for the Hospital Service to get together to rationalise the situation and identify their requirements.

(3) Storage of Supplies

Different views were expressed on the arrangement whereby supplies of equipment for new units were stored at central points to ensure ready delivery to the hospitals on demand. On the one hand it was considered that this was an unnecessary tying-up of financial resources while on the other, in terms of overall global sums involved, it was considered that the amount involved for storage was very small and was offset by the ability to make the articles readily available. From the Central Department's point of view the policy of purchasing and storage could not be generally recommended but it was accepted that in some situations a legitimate case for this could

be made. Storage of large quantities of supplies in this way however was usually undesirable since this might lead to articles not being required for some time and therefore ran the risk of becoming obsolescent. It was essential to decide carefully what was worth storing in this fashion and in this connection it was noted that the Oxford Regional Hospital Board had carried out some valuable work on the optimum levels desirable for the storage of unused equipment.

(4) Existing Central Contracts

In terms of the arrangements existing under central contract at present it was noted that the main criticisms levelled were related to delivery times and arrangements for servicing. It was appreciated by the Department that the delivery time on some central contracts had presented great problems and, although attempts had been made to write in time limits into several agreements even this did not eliminate the problem. Some of the difficulties were attributable to the fact that much of the ordering was concentrated towards the end of the financial year but it was essential that the Hospital Service should not be guilty of complacency in this direction by letting delays go on too long before taking any action. Delivery times apart, it was considered that in general the central contract arrangements proved most effective and where the facilities were used properly few problems arose. The quality and range of items were steadily improving and there was a view that a general expansion of such facilities was desirable.

(5) Specifications

In terms of ensuring the right type and quality of articles, definition of need, ie an accurate specification, was essential. The concept of the specification working group had existed for some time and, having been established as something of an experiment, early reports had tended to 'over specify' articles under consideration, which had in turn tended towards the production of a high cost article. This however had been rectified and the reports of numerous working groups had led to the establishment of central contracts whereby a suitable article was available on favourable terms. Although most of these groups were established on a UK basis, Scottish representation or views were made available to them and there was close co-operation between the Health Departments on many projects. It was noted that in the supplies field Scotland had moved in a different way from the rest of the UK on some matters, eg nurses' uniforms, and the Department was always aware of the fact that any decisions which it took must be on the basis of what was right for the Scottish situation. The formulation of a true specification, preferably in terms as wide as possible but with minimum standards, was essential before going out to tender although it should be appreciated that, if there was something adequate already available on the market, there was little point in producing a specification where the trade article did the job satisfactorily. In general it was thought that the specification working groups were of considerable value to the supplies function of the Hospital Service and their activities were seen as an integral part of the process of improving the quality and type and the price of articles available.

(6) Re-organisation of National Health Service

The implications of the hospital supplies function under a re-organised National Health Service was discussed. It was noted that the Department was at present giving thought to the position and was in process of preparing a paper on the possible future supplies organisation which would be circulated for comment to various interested parties in due course. Although no decisions had been taken as yet, and in particular as the Working Party on Hospital Supplies had underlined the need for a strong central supplies body, it was likely however that the proposed Common Services Agency would undertake some functions in this connection. In view of the various bodies to be involved, ie the Central Department, Common Services Agency and Health Boards, various permutations as to responsibilities relating to supplies could be proposed. Various opinions were expressed as to where responsibility should lie and emphasis was placed on the need to ensure that the supplies function should not be placed at a level too remote from the local situation. There were however considerable advantages to be gained by bringing together expertise which at present was scattered amongst several authorities and, particularly in view of the wider supplies function involved as a result of NHS re-organisation, the need for the establishment of an effective central organisation which could consider the situation nationally was underlined. It was suggested that as Health Boards were to be the focal points for the administration of the health service then supplies should be part of these Boards' functions, and that the Common Services Agency should incorporate only what it was desirable to do centrally in the national interest. The supplies work in total, however, could only be worked by a combination of effort and the view was expressed that the most satisfactory arrangement would take the form of a breakdown in function between the Common Services Agency and the Health Boards, provided that full cognisance was taken of requirements in the local situation. There were dangers in any function becoming too remote from hospital level and within the re-structured service it was essential to guard against a system which, for the sake of efficiency and streamlining, was too centralised and top heavy and no doubt to the detriment of the patient.

(7) Communications

Communications were continually emphasised as being of paramount importance in the establishment and maintenance of an efficient supplies system. Problems frequently arose due to information and complaints not being made available to the relevant bodies. The Steering Committee was aware of the difficulties in communication in this respect and, partly because there was the tradition in Scotland not to have a supplies officer in post at Board of Management level, little effective liaison between Regional Hospital Boards and Boards of Management seemed to exist on the question of supplies. It was felt that communications generally within the Service were not very satisfactory and a case could be made for the establishment of the post of a 'Complaints Officer' at Board level. As far as the Steering Committee was concerned it was noted that its members would be most interested to have the views of the Hospital Service on existing or possible future arrangements, either collectively through Boards or from individual officers, and it was noted that these could be forwarded to the Committee through its Secretary at the Scottish Home and Health Department.

Scottish Hospital Centre
December, 1971.

The role, design and staffing of a spinal paralysis service

Meeting at the Scottish Hospital Centre on Friday 28 January 1972

The problems of persons suffering from severe spinal paralysis are many and some major problems remain unresolved. This conference showed the need for further study and evaluation of the subject, both in hospital and in the community.

LADY BAIRD, Vice-Chairman of the Council of Management of the Scottish Hospital Centre, took the Chair at this conference.

MR P HARRIS, Deputy Director of the Department of Surgical Neurology in Edinburgh and Chairman of an ad hoc Spinal Paralysis Service Committee formed 3 years ago, in opening the conference made the point that "Where there is no vision, people perish". In the USA there were approximately 10,000 new spinal injury patients each year and the cost to the US economy over the next 20 years would probably exceed $2 billion annually: in 1967 the life cost to society per paraplegic patient was $344,000. Unfortunately most patients with spinal paralysis in most areas of the world did not receive proper care, and with some notable exceptions there were very few new, specially designed, equipped and staffed spinal paralysis centres in any country at present. Most existing spinal units were in unsuitable hospital and geographical situations, were being overwhelmed with patients and were not in a position to accept fresh cases. Most had poor academic associations or lacked them entirely, and had either no facilities or restricted facilities and funds for vital research activities. At one time Britain led the world in the organised management of the spinal paralysed in certain pioneering centres. The conference should serve as a useful forum and encourage people in many different disciplines to give the matter greater thought. The pioneering days were over: there was a duty to provide better clinical care, to be more active in research and to spend more time in teaching others about spinal paralysis.

MR W G KERR, Consultant Surgeon, Spinal Injuries Unit, Edenhall Hospital, Musselburgh, and Secretary of the ad hoc Spinal Paralysis Service Committee, presented the Committee's views on the problem. The Committee membership was representative of general, neurological, plastic, orthopaedic and paediatric surgery, urology, neurology (adult and paediatric) and physical medicine.

The Committee's initial task had been to survey all cases of severe spinal paralysis admitted to each of the units with which the members were associated during 1968. The survey, which excluded poliomyelitis cases, confirmed that the commonest causes of severe paralysis, at various ages, were spina bifida, trauma, disc lesions, multiple sclerosis, vascular lesions of the cord and primary or secondary malignant diseases, together with a number of miscellaneous conditions. Adult patients had primarily been admitted to a variety of units based on the initial diagnosis. Some, after treatment, had returned home, others had moved on to a Rehabilitation Unit or the Spinal Injuries Unit and then home, while others had moved backwards and forwards to a number of units, as the result of the development of complications. Those transferred to the Spinal Injuries Unit

stayed until maximum rehabilitation was achieved and remained the responsibility of the Unit for follow-up purposes or for readmission for the treatment of complications. Other patients, and these were in the majority, remained as a rule the responsibility of their original unit but might be referred to other units by their general practitioner. The majority of spinal cord injury patients in the South-Eastern and the Eastern Regions of Scotland were initially treated in neurosurgical departments, while elsewhere in Scotland initial care was provided in orthopaedic departments.

Two major problems remained unresolved. The first concerned the adequacy of services for those who were very severely disabled with motor-paralysis, sensory loss with its risk of pressure ulceration, and loss of control of bladder and bowel, whatever the cause. The second problem related to the future care of very severely disabled children when they were too old to continue attending a paediatric unit.

Until the opening of the Spinal Injuries Unit at Philipshill Hospital near Glasgow, the Edenhall Unit with 22 beds for males and 6 for females had been the only one in Scotland. A new unit with 40-60 beds is in the building programme of the SERHB but detailed planning had not commenced, although the site had been designated in the grounds of the Princess Margaret Rose Orthopaedic Hospital in Edinburgh. Ideally, such a unit should be part of an acute general hospital where all facilities and specialist consultation were available but if this was not possible then patients should be transferred from their acute unit as soon as initial assessment and treatment had been completed. Initial assessment and care should be carried out in consultation with the consultant who would be responsible for the patient's subsequent day-to-day care. A spinal paralysis unit had to have highly skilled and supporting nursing staff, and also full-scale rehabilitation and medical social work services together with liaison, psychological and psychiatric services. Close co-operation was essential with local authority Social Work Departments and the Department of Employment. Radiological and theatre facilities for the investigation and treatment of urological problems and for plastic surgery were necessary, as were comprehensive out-patient facilities. The staff should be available for consultation in other hospitals and in domiciliary practice.

The Committee considered that when more beds became available the present policy relating to non-traumatic cases of accepting acute, transverse, non-progressive lesions if a bed were available, but excluding progressive lesions such as multiple sclerosis or terminal malignant cases, should be changed but with two provisos. Firstly, a Unit should not be larger than 50-60 beds to maintain the personal touch and good staff-patient relationships and, secondly, the psychological atmosphere of mental adjustment to a non-progressive lesion should not be upset.

Long-term care was one of the greatest problems because some patients had no home to go to or were too disabled to be looked after at home. Some patients already being looked after at home would inevitably require care elsewhere as relatives grew older. Some might be accommodated in voluntary homes for the disabled and some in young chronic sick or geriatric units, but because of the skin and urological problems of spinal paralysis patients the Committee considered that a Spinal Paralysis Service should have a number of long-stay beds for those patients needing highly skilled nursing care.

Although changes had occurred in the past 10 years in the care of patients born with spina bifida, a problem, which had to be urgently met and solved, was the co-ordinated care, as they grew older, of those patients requiring

multi-disciplinary hospital supervision. It was estimated that eventually every year 20-25 new patients would require such care in the South-Eastern Region and these numbers were comparable with the number of new traumatic cases seen each year. To ensure satisfactory continuity of care for spina bifida patients there had to be increasing liaison between paediatric staff and those caring for adults and, in particular, between team co-ordinators to ensure that care followed on agreed lines as far as possible. The time had also come to develop an adolescent unit. Many medical and surgical conditions were no longer fatal but necessitated life-long supervision. If the problem were solely that of spinal paralysis it would seem obvious that the adolescent unit should be attached to the adult spinal paralysis unit. Wherever the bridging unit was sited, it should be staffed from both units to ease the change for both parents and child.

At present Philipshill Hospital accepted adult traumatic cases from Glasgow and the West while Edenhall accepted patients from the rest of Scotland. Although distress was caused to some patients and relatives by the distance the units were from their homes this was accepted as inevitable. However, if children were to be transferred to the care of these two adult units on reaching adolescence, major problems would arise with regard to liaison, psychological attitudes and transport. The time had therefore come for urgent discussion in other Regions with regard to the setting up of their regional spinal paralysis services. When the present adult units only catered for traumatic paraplegia the numbers were too few to necessitate this but the need to cater for increasing numbers of non-traumatic cases of all ages was now very real and should be met.

DR J LORBER, Consultant Paediatrician, Children's Hospital, Sheffield, spoke on the organisation of a spina bifida unit for children based on his observations and experience of the Sheffield Spina Bifida Unit, which in 1970 dealt with over 100 new patients. The Unit had not been purpose-designed: it grew up and partly for this reason had advantages as well as disadvantages, and also immense problems.

Many of the problems and needs of spina bifida were similar to those of adults with acquired paraplegia, but several major differences had to be taken into account. As infants and children they required the services of doctors and nurses trained in paediatrics and understanding the physical as well as emotional and developmental needs. As such they required an emotional atmosphere suited to them, including play therapy for younger children and organised schooling in hospital for those of school age. Education was vitally important for their future and they must not be allowed to fall behind if they had to be in hospital for any length of time. The majority of spina bifida children had hydrocephalus, the investigation and treatment of which was an important additional need and which often created acute emergencies. Another major difference was that most of the problems of spina bifida children were acute: their need for long-term hospital care rarely arose and should be avoided. For chronic conditions or follow-up of orthopaedic procedures, even while they were still in plaster, they could well stay in their special schools, or if younger, at home.

The siting of a new unit was important: it should be easily accessible by public transport and near the centre of a large population; parents should be able to visit easily, without too much expense in time and money; it should be large enough, in one place, to care for patients from infancy to adolescence and perhaps beyond, whether they required surgical, medical, urological, orthopaedic and other specialised

investigations and treatment. Children should not be scattered in different hospitals where their special problems would be dealt with in isolation and without combined care and ready access to the patients by all members of the team. They and their parents were given confidence and emotional security by knowing well their doctors and nurses, and they in turn should know the children intimately, including their social background and personal problems. Children should not be sent to convalescent units where the standard of senior supervision might be seriously below optimal.

Dr Lorber felt there was no need for special ward units for spina bifida children. It was better for them to be nursed in cots in a neo-natal ward unit or in the general medical or surgical ward units and it was better for the nurses too. They could be visited by consultants and their staffs, individually or in combined rounds, irrespective of the beds they were in and much time could be saved in this way. For example, investigations of the neurological condition of the hydrocephalus could be carried out by the medical team while the child recovered from surgery of the back. Renal and bladder function could be conveniently studied prior to or during medical or longer term orthopaedic admissions. Specific studies of muscle power could be arranged while under medical treatment for urinary infections and so on. Joint rounds could be held by all the consultants and research workers concerned: the policy of patient management could be agreed and strategy as well as tactics could be planned comprehensively.

As to the size of a new unit, the number of cots and beds required could be calculated from the population served. Assuming an incidence of 2 per 1,000 births - this varied in different parts of the country - in a population of 1,000,000, some 35 babies a year would be born with spina bifida. About a quarter would be stillborn or die soon after birth leaving some 25-30 new cases a year for consideration. If the unit offered active treatment to all babies, and assuming an average of 4 weeks from initial hospital admission until completion of the first phase of treatment (or premature death) 4 cots would be ample; this number allowed for fluctuations in intake, because on average only 2 cots would be occupied. If the unit exercised selection of treatment then about one half of all patients would be treated and the others would be given normal nursing care: the latter best being carried out in a local hospital. The number of neo-natal cots required in the unit would in these circumstances be reduced, but not over much, partly because all infants would be admitted for full initial, compassionate and expert assessment, and partly because, even if all had been treated, many would have died in early infancy in any case. The number of beds required later would be much less because those with less severe handicaps would require less after-care. With a population of 1,000,000 in the catchment area some 15 children, with an average length of stay of 4 weeks per annum, would need repeated admissions from each year's intake; this would require 2 cots and beds in the first year, 4 in the second, and so on. There would be some late deaths, and others would not need so much attention later, so that after the 5th year only 1 extra bed per annum would be needed. A fully-operational unit with a total of 20 cots and beds should be ample for all needs; this should include 2-3 beds for adolescents.

On medical staff, the unit should be staffed with one or two paediatric surgeons and there would be advantage in having a neurosurgeon, urological and orthopaedic surgeon in the team to continue the care of patients into adult life, otherwise the well-organised total care offered in a children's hospital could come to an abrupt and demoralising end when adolescence arrived. It was essential to have a paediatrician

in the unit who preferably should have neurological training and a keen interest in social paediatrics. While local conditions might dictate his role and task he should be the co-ordinator of medical services, as the person who should know the child and his family best, who might be regarded by parents as their doctor to whom they would first turn with their problems. He would be responsible for the medical paediatric care of the patient, and he and his staff would maintain close liaison with the public health and school medical services, organising and ensuring complete follow-up of all patients. He would give genetic and family planning advice and make sure that the social services were fully involved in helping the families. No matter which doctor played the role of co-ordinator it was essential to recognise that spina bifida was not principally or exclusively a surgical condition, although much of the active treatment was carried out by surgeons. Other consultants, such as an ophthalmologist, should be easily available for consultations.

The unit needed access to a radiological department capable of carrying out neuro-radiological procedures and to have available a full range of laboratory facilities. For this reason it was best to integrate the unit into the wards of a large, well-equipped teaching hospital.

Spina bifida children required regular follow-up care and assessment and some had to attend out-patient clinics to deal with acute problems. There should be routine examinations every 3 months up to the age of 12 months then at 6-monthly intervals until school age and annually thereafter. They should attend only a combined clinic which should have sufficient consulting/examination rooms for the various consultants who should, if the need arose, see the children separately, but could and should be in frequent communication with each other in dealing with multi-disciplinary problems. It was impossible for the senior consultant paediatrician to see each patient at every visit because some 60 patients might be expected to attend the clinic every week, but provided he made a point of studying case notes and holding discussions with his assistants at the end of each clinic it was possible to keep in touch. Among the many functions of the clinic was to keep fully in touch with the parents to give them all the information and support they needed. They should be encouraged to ask the many questions they wanted to ask but were afraid to do so: these might range from technical questions on appliances, to genetic advice, to knowing how to apply for attendance allowance and many other topics.

Many obligatory procedures had to be carried out including taking cultures of fresh urine samples in incontinent children and examination of the fundi of those with hydrocephalus, and there were a number of other tests that could be planned ahead for the date of the next visit to avoid unnecessary journeys. Beds would always have to be held ready for those who might have to be admitted. A medical social worker and a member of the Spina Bifida Association should be present in the out-patient department and be available to help. After each visit good comprehensive letters should be sent to the patient's family doctor and copies of these should be automatically sent to the consultant who initially may have referred the child and in whose area the child lives. Where relevant, copies should also be sent to the MOH and School Medical Officer: it was easier to send an extra copy than to reply to individual enquiries. The letter should give unambiguous advice to family doctors about suggested treatment, for example about urinary tract infections.

Children attending special schools could easily have their urine cultured either by sending refrigerated samples to the hospital laboratory or by using a dip-slide method on the spot. Reports would go to

The Sheffield Spinal Injuries Unit, located in a mainly acute general hospital, was 7 miles from the city centre where there were two major orthopaedic and accident departments: communication by road was both good and rapid. A helicopter pad could be used on a 24-hour basis: the pad also served other hospitals. The Unit had 20 beds for acute trauma, 22 for progressive care and 22 for repairs and reviews, a total of 64 beds. Operating theatres were shared with general, orthopaedic and plastic surgery, and endoscopic urology, but no neurological surgery was carried out in the hospital. As regards use of the operating theatre most acute cases came as elective admissions from neurosurgical or orthopaedic and accident departments after resuscitative and/or corrective procedures had been carried out. The Department of Radiology supporting the Unit had modern equipment including video tape and an image intensifier and there were full facilities for pyelograms, cystometrograms and arthrograms. Rehabilitative work was carried out mainly in the progressive care ward, the physical therapy department and the occupational therapy department. An office was available for a medical social worker who was in daily contact with outside agencies. Accommodation for visiting relatives travelling substantial distances was also provided, and could be used by relatives when receiving instruction on the care of patients.

The activities of the Spinal Injuries Unit at Lodge Moor Hospital had shown that there was a case for special units, which could ensure lower mortality, lower morbidity, improved rehabilitation, and facilitate basic and clinical research into special problems.

In conclusion, Mr Hardy said that spinal conditions could not be subdivided according to various specialties and sub-specialties of medicine and surgery - they had to be assessed individually. Such assessment was best done by clinicians who had gained experience by continuous contact with the patients over many years. A single person could not be expert in all the surgical and medical fields involved in the care of spinal injury patients, but that person had to have a basic understanding of them all in order to decide in a given situation which of the fields should have momentary preference over the other. There had to be a multi-disciplinary approach with one overall co-ordinator and this goal could be achieved with a self-sufficient unit within the framework of a general medical and surgical hospital.

DR J MAIR, Director of Social Work, Corporation of Edinburgh, reviewed the services that a Social Work Department might provide for patients suffering from severe spinal paralysis. Many bodies were involved, viz local authority social work, health, education and housing departments, hospitals, the Department of Health and Social Security etc and although overlapping might be a good thing in theory to prevent gaps in provision, too often it could lead to 'passing the buck' between departments, to the detriment of the person in need. For the severely disabled it was clear however that community services must follow on from hospital and meet their needs, otherwise much of the good work done in hospital would be undone.

The services which could be provided for the severely disabled in terms of the Social Work (Scotland) Act 1968 were intended to help a person overcome or lessen the effects of his disability and were not classified by the cause of disability which, although important to the health services, might lead to fragmentation of services and militate against unity of purpose. In Edinburgh, the Cripple Aid Society was the Corporation's agent for the welfare of the physically disabled; thus

aids and equipment for bathing, toilet, dressing, pushing, eating, housework, and advice on home adaptations were provided through the Society, as well as work centre activity. Financial help was also given to other voluntary organisations in this field.

Home helps, meals on wheels, and library books for the housebound were some of the domiciliary services provided. The home help service, however, was not always suitable for meeting the requirement of the person who needed help to get up in the morning, needed little or no help during the day but at the end of the day again needed help to get into bed; this applied also to those persons needing assistance on and off a WC or with toilet preparation. These intermittent needs might best be met in some cases by paying a neighbour, the amount paid depending upon the number of items of service rather than by an hourly rate. If the home help service was to be of greater benefit to the severely disabled it would have to become more flexible and the helps given suitable training for this purpose or perhaps by extending the training to include simple nursing.

Special arrangements regarding public transport and parking restrictions were available to disabled persons: those who had a substantial and permanent impairment to walking were given a season ticket free of charge for the local 'bus service, and disabled drivers and their passengers were exempt on a national basis from most parking restrictions. Work centres could be provided for those unable to do a full day's work and sheltered workshops could be provided for those capable of putting in a full day's work but unfit for open employment. Payment for telephones could be made by the Supplementary Benefits Commission, and recently the Government had asked local authorities also to consider the provision of telephones to those severely disabled persons living alone with no relatives, friends or neighbours looking in.

In the fields of residential care and housing for the disabled many problems arose. Homes for the disabled (other than elderly), as far as being provided by local authorities, were virtually non-existent in Scotland: the same could be said for hostels. Although the provision of housing was not a matter for social work departments they could reimburse housing authorities the difference in the cost of an ordinary house and one specially designed for the disabled. Housing authorities had a greater part to play in providing houses for the disabled than for ordinary houses, since specially designed houses for the disabled were not likely to feature in a speculative builder's programme in the private sector. The design of post-war houses had stemmed more from financial limitations instead of getting the design right and letting the price follow on from that. This meant that little could be done to adapt a house for disabled living and the problem should be tackled by building houses with a basic design for the disabled, and thereafter tailoring it with adaptations to meet the particular disability of the ingoing tenant. Such houses should be in a variety of sizes to meet the differing sizes of families. What was required was a full spectrum of accommodation from the home where full care and attention could be given, then intermediately sheltered housing with wardens, hostels, and finally specially designed houses. This whole field had been neglected in Scotland. A recent estimate put to Edinburgh Corporation of what the Corporation should provide in the way of housing for the elderly and handicapped showed that the estimated cost would be in the region of £70 million.

Another aspect of work in which social work departments had not so far made much headway was in the dissemination of information - letting the disabled and the public generally know what services were available, what should be available and where or how to get them. Only in this way would

services be extended or introduced to meet the real needs. Linked to information was the need to educate politicians, both in local and central government, and others into the needs of the disabled, and the disabled themselves to request and oddly enough to accept services.

The Social Work (Scotland) Act gave authorities power to assess a person's financial ability to contribute towards the cost of any services received. Some authorities did this but some did not. Was it appropriate that social work departments should be providing ordinary equipment or services which the disabled person could easily obtain if he had a reasonable weekly income? Taking telephones as an example, the sole reason why some disabled persons had no telephone was because they could not afford one. Should the disabled have cheap fares on buses? Would it not be more appropriate for them to have an income to enable them to pay the full fare? Other than the provision of special housing, probably the only item that should be provided as a social service for the disabled was disabled driver's badges - something which money could not buy.

In conclusion, Dr Mair said that the disabled should be given priority not charity. Society should not try to salve its conscience by giving cheap fares, free telephones and other handouts.

MR P HARRIS, Deputy Director of the Department of Surgical Neurology in Edinburgh, spoke on the subjects of teaching and research in the field of spinal paralysis.

For over 20 years the Edinburgh Medical School had ensured that medical students and post-graduate doctors were taught on this condition. Nurses in training and post-registration nurses, physiotherapists, occupational therapists and medical social workers were also taught. It was important to teach general practitioners and patients and their relatives about many of the practical and important aspects of spinal paralysis. This could be done in various ways, for example by discussions in the spinal injuries unit, by domiciliary and hospital visits to see patients, and by patients meeting and discussing their problems together.

An aspect not stressed enough in teaching was the prevention of spinal paralysis. It was now nearly always possible to predict if parents would have a second spina bifida child; also bio-chemical studies were being used to diagnose spina bifida at a very early stage. Many serious spinal injuries could be prevented, whether due to road traffic accidents, to falls, to diving accidents, or to accidents at work. Education of the public was required, eg the use of proper protection inside vehicles, the correct extrication of the injured from vehicles, and the prevention of the second or third accident. It was unfortunate that spinal neoplasms were often diagnosed at a late stage and also unfortunate that paralysis might be further aggravated by an untimely lumbar puncture.

The effective study and analysis of spinal paralysis required an agreed international classification of disease: the next revision might make this possible. It was also important to have an agreed and uniform nomenclature so that all concerned knew that a "C6 lesion" meant a spinal cord lesion beginning immediately below the 6-7 cervical segment.

Reference was made to research work over the years on making experimental spinal cord lesions and how, with the success in recent times in producing "standard lesions" and by using techniques including fluorescent studies and electron microscopy, studies could be carried out on, amongst other

things, pathological circulation and the effects of different types of therapy. Recent study work had covered the blood supply of the spinal cord and nerve roots, and there was new work on vertebral artery insufficiency in cervical spine trauma. Of particular interest were blood flow studies of the spinal cord including the direction of blood flow, the importance of radicular arteries, traumatic vaso-spasm, micro-angiography and radio-active isotope studies.

In the field of neuro-spinal biochemistry numerous studies had been or were being undertaken, including those on lactate acid accumulates in spinal cord tissue after trauma, catecholamine receptor blocking agents, the effect of Dopa on the spinal cord, and the possible value of estimating the metabolites of central nervous system transmitters. Neuro-physiologists were making important contributions in animal work and in spinal man, thus new discoveries were being made on inhibition mechanisms and on transmission pathways in the spinal cord. Electro-myography, muscle histochemistry, electro-microscopy and biochemistry were most important tools in the study and understanding of many neuro-muscular disorders. Spinal cord regeneration research, however, was little further forward mainly because insufficient researchers were working in this field. It was noted that the National Paraplegia Foundation was offering a prize of $10,000 in 1972 to a scientist considered to have made a significant contribution towards finding a cure for paraplegia - by carrying out basic research in the field of spinal cord regeneration.

For many years now there had been in the Department of Surgical Neurology in Edinburgh an emergency mobile neurosurgical service for patients with head or spinal trauma. In Dublin there was a flying squad service using helicopters. These activities enabled patients to receive care as quickly as possible and for the application of the appropriate therapy at the earliest possible moment. Further research was required regarding the organisation of services at the scene of an accident because 30% of patients with a serious spinal injury had a significant associated injury usually a head injury.

Many unnecessary operations were being done on patients with severe spinal injuries and there was need for a planned co-operative international study to be carried out in this sphere. Acute protruded cervical intervertebral discs were unfortunately still being missed and therefore untreated. The place for operative stabilisation of certain spinal injuries was not yet fully understood, especially in relation to early mobilisation of the patient and the reduction of the time that the patient might spend in hospital, and therefore reduction of the chance of developing certain complications from the spinal injury. There was scope for other studies, including the estimation of blood gases in patients with spinal paralysis; electrophrenic respiration in tetraplegics; cardiovascular, metabolic, endocrine, gastro-intestinal and cutaneous studies. Also necessary was investigation of spinal cord oedema and studies on the recovery of spinal cord and of cauda equina function after spinal cord compression from various causes, and studies of para-articular ossification.

Mr Harris went on to question the present types of skull traction apparatus; the place for the immediate use of cortico-steroids and/or dehydrating agents; spinal cord hypothermia on which not enough work had been carried out on animals to assess its value; and hyperbaric oxygen which was now of doubtful value for patients with severe spinal cord lesions in the acute phase. He posed questions about whether enough research was being done regarding patient frames, beds and appliances. The design of wheel-chairs had not changed much in many years but special wheel-chairs for the tetraplegics were becoming available, including a

recent one developed as a spin off from the USA manned space flight programme; this chair was controlled by a sight control mechanism and was said to be highly successful in use. Much research needed to be done in clothing for the severely disabled, and in accessibility for those so afflicted.

Pulmonary embolism was one of the commonest causes of death in the first 2 weeks in patients suffering a severe spinal injury. Because of this a special thrombo-embolism study was under way in the Western General Hospital, Edinburgh. Prevention and early diagnosis and treatment of deep vein thrombosis in the lower limbs and pelvis in the spinal injured also posed a difficult but important problem.

Radiological investigations including myelography and discography in certain patients with acute spinal trauma were under way, and spinal angiography to demonstrate vascular malformations of the spinal cord, and in urinary tract studies radio-active isotope renograms were now under surveillance. Studies of cerebral paraplegia were shedding further light on aspects of the anatomy and physiology of the brain and spinal cord. Swedish and American workers had been investigating the value of a nerve transplantation in traumatic cord lesions.

Research into urinary problems included studies of the real value of intermittent catheterisation and trials were under way of portable external female urinals and electronic radio transmitter devices for the neurogenic bladder. Atlanto-axial disease and injury presented special problems with interesting syndromes: new types of fusion operations were being used in some cases with the patient's head and neck fixed by a halo apparatus. Spasticity and joint contractures caused great interest and in Edinburgh torque generators had been used to study clonus and also disturbance of muscle tone: the system was being used to objectively assess the effects of anti-spasmodic drug therapy and of various operative procedures for severe spasticity in patients with spinal paralysis. Also under trial for this severe complication of spinal paralysis were other procedures such as the injection of motor points with aqueous phenol, various modifications of Bischof's myelotomy, and commissurotomy.

Stereotactic spinal surgery was beginning to prove its usefulness for certain forms of intractable pain and spasm, and although the place for pituitary gland ablation for metastatic breast carcinoma to treat intractable pain and/or paraparesis was not fully appreciated there had been several successes with this procedure. A common cause of serious spinal cord disturbance was degeneration of cervical discs, and in particular cervical spondylosis. During the last 10 years Mr Harris had operated on some 400 patients using an anterior approach, and long-term results were forthcoming, including new information on the incidence, aetiology, clinical syndromes, pathological and radiological features and the results of operative treatment.

Co-operation with biomedical engineers was proving invaluable, for example to study the biomechanics of the vertebral column and its contents, and to develop better devices for the paralysed upper limb: recent clinical researches on the latter had been important and a better understanding of the place for tendon transplants had been obtained.

Delayed neurological disturbances could be prevented by early appropriate treatment, but it had been shown that there was a place for late surgery for incomplete traumatic lesions of the conus medullaris and cauda equina.

For good socio-economic reasons hostels played an important part in a spinal paralysis service, and Mr Harris referred particularly to a report published for the Nuffield Provincial Hospitals Trust in 1968 entitled "Hostels in Hospitals?"; this report had been based on study work carried out by staff of the Scottish Hospital Centre.

In conclusion Mr Harris referred to some of the psychological and social reactions in particular to acute spinal paralysis. He had seen a "sensory deprivation type of syndrome" in several patients who had been completely immobilised on a patient turning frame with skull calipers in situ; these patients sometimes developed hallucinatory-like experiences. Although it was realised that the basic pattern of human behaviour was more or less the same everywhere, continuous exploration was being made of the influence of ethnical differences and also of differing social and cultural influences in different parts of the world on the psychological and social reactions to acute spinal paralysis.

DISCUSSION

Opening the discussion PROFESSOR NORMAN DOTT, Emeritus Professor of Neurological Surgery, Edinburgh, observed that although a spinal cord compressing agent was successfully removed in 1883, permanent total paralysis continued with an almost uniformly fatal prognosis until the 1940s when the public conscience was stirred about the condition and future of young war-injured spinal paralysis patients. The formerly fatal complications became better understood and treated. They could now survive in good health. Wheelchairs were improved, personal motorised transport was provided, and economic employment was sympathetically considered. Gradually these medical and social advances spread to become standard practice - eventually reaching spina bifida children, with a remarkable effect on their survival and potentiality.

In the United Kingdom, EMS or Ministry of Pensions Spinal Paralysis Centres had been established in most of the larger centres of population, and as the War receded into history the Centres were adapted to community use. Historically they had a strongly surgical as contrasted with medical bias. Thus after their quasi military start, they admitted civilian spinal injured, then a few instances of spinal tuberculosis and spinal tumours. Their benefits had not yet reached the non-surgical spinal paralytics nor the increasing number of spina bifida children.

In Professor Dott's view, spinal paralysis was such a condition that its presence and its best management far transcended such details as its cause or the age of the patient. Management was difficult and complex, and the same principles applied, with suitable adaptation, to patients whose paralysis was of any etiology and at any age. The same expensive, complex, biomedical engineering services were required for all and could not be duplicated with reasonable economy. He hoped that evolution would lead to such centres being available to cases of every etiology, and that they would have both paediatric and adult sections. The paediatric group would soon be the largest.

Other points brought out in the discussion, which was mainly of a structured nature, were as follows:-

(1) Paediatric problems

Doubt was expressed about the arrangements in some hospitals whereby spina bifida and other severely disabled children were spread throughout medical and surgical wards according to their secondary

medical condition. It was suggested that in such circumstances the medical and nursing care of these children would suffer and not be nearly as adequate as when they were grouped in one or more wards where their treatment and care would be the responsibility of a special team of doctors and nurses. A contrary view was that doctors representative of all the specialties involved in the care of children suffering from spinal paralysis, working together as a team, could be of greater benefit to the children, no matter where they were located.

(2) Genetic problems

Genetic problems relating to spina bifida were noted. Although the only sure way to prevent the birth of a second child with spina bifida was to have no further children, methods of diagnosing the condition early in pregnancy in 'at-risk' families were being developed.

(3) Planning and design of a spinal injuries unit

The architect for the conversion of the Spinal Injuries Unit at the Victoria Auxiliary Infirmary at Philipshill near Glasgow, MR J C McBRIDE, of Watson, Salmond and Gray, Architects, Glasgow, explained that the Unit had been formed by altering an existing "Nightingale" ward and by adding a comparatively small extension. The Unit had accommodation for 20 male and 4 female patients and had a direct link to the existing hospital services such as operating theatres, X-ray and physiotherapy departments etc. Among other rooms, it contained within its own area a recreation room and 2 treatment rooms designed for sterile nursing techniques. Unlike most hospital units, there were no Building Notes for a spinal injuries unit and the Scottish Planning Note on "Ward Design" was of little assistance. The most helpful publication was "Designing for the Disabled" by Selwyn Goldsmith.

The fundamental requirement was for increased space around the patient, especially during the acute stage of the illness. Everything had to be provided which would give easy access for a wheel-chair. Sliding doors were desirable and these had been provided wherever possible. However the fire regulations required self-closing doors and this type of door, which was merely a nuisance to ambulant patients was a major obstacle to a patient in a wheel-chair. Electrically operated doors were desirable but expensive and could themselves create a number of problems. More storage space was required than in a normal ward, for wheel-chairs, equipment and disposable materials necessary for this type of patient, and although it had been thought that the storage space provided was generous, since the Unit was opened in November 1971 it had become clear that one could never be over generous in this type of accommodation.

It was noted that the Unit at Philipshill was only a reasonable compromise; that in any building for the severely disabled simplicity of design was preferable to over-elaboration, and that the lay-out should make for practical nurse working. At Philipshill, operational since November 1971, a few snags had been reported by the medical or nursing staff, but more important the patients had all been most appreciative of the new facilities.

(4) Nursing problems in the care of patients suffering from spinal paralysis

MRS N K BOWMAN, Matron of the Victoria Auxiliary Infirmary, noted that the nursing problems associated with spinal paralysis patients did not arise specifically from the procedures to be carried out, but rather with the patient's treatment as a whole person. After assessment and the degrees of medical and nursing dependency had been defined, the control of vital body functions and in many cases total-body care was simplified by the use in hospitals of CSSD packs, disposables generally including equipment, the provision of Stryker and electric beds, and modifications to fittings, equipment and buildings. The problem was the setting up of a complete regime which included a time-table to establish a new rhythm of life for the patient and all for one purpose - his rehabilitation. This could only be achieved in an atmosphere of understanding, disciplined sympathy and continuing encouragement as soon as possible after the onset of the condition - with emphasis on the patient maintaining his dignity in almost impossible conditions.

On staffing it was desirable that nurses and domestics of all grades should be permanent, to establish both a team spirit and good inter-staff relationships which in turn inspired confidence in the patient from the time he was admitted until he achieved maximum self-reliance. A problem to be faced was whether particular individuals were temperamentally suited for this type of nursing. At Philipshill, staff of a mature age had been recruited and found to be more sympathetic and emotionally stable, and as a rule better able to support the patient with all his problems.

In discussion, it was noted that in some other countries computer programmes had been prepared for the nursing care of spinal paralysis patients and that the monitoring of the results had shown this to be worthwhile. Student nurses from 2nd year onwards worked in one head injuries unit in Scotland, but it was observed that with head injury cases, many of them severely comatosed, patients were unaware of their physical condition and therefore this avoided emotional upsets for the nurses. It was suggested by more than one speaker that the nursing of paraplegics was no more difficult, in fact less so than basic nursing in general wards with a variety of medical and nursing conditions. On the other hand, some speakers more directly concerned with spinal paralysis patients felt strongly that special training at post basic level was necessary, particularly because special techniques were required and often such patients had skin problems not normally seen in general wards.

(5) Administrative and medical staffing of spinal paralysis units

DR C BAINBRIDGE, SAMO of the Western RHB, observed that in spinal injuries units throughout the country there was no uniformity of organisation and it appeared that certain principles had not yet been established. Even the size of the problem was unknown and needed further study. There was obviously a divergence of opinion about where such patients should be treated - in general wards or special units. Prior to preparing the functional brief for the Spinal Injuries Unit at Philipshill, representatives of the Western RHB visited Lodge Moor Hospital at Sheffield where it was clearly demonstrated that there was a need for specialised nursing; that cases should be concentrated in a special unit; that improved accommodation should be related to nursing care requirements; that such a

unit should be located where operating theatres and diagnostic facilities were available; and that adequate physiotherapy and occupational therapy should be available. As a result it was decided to concentrate spinal paralysis cases at Philipshill in the first instance, but only as the first stage of providing a proper unit for the Western Region. Already there were signs that the Unit was not operating as successfully as intended, partly because of the changing nature of admissions - more medical cases, and partly due to the development of accident units in main centres of population which were coping with cases it had been thought would be sent to Philipshill (these units had resources and staff which could not be duplicated at Philipshill). The planning assumptions were therefore not being met. As to medical staffing, there was a need for a co-ordinator to be responsible for executive action in the care of such patients; this might be the responsibility of a specialist in physical medicine whose duties would include follow-up work, periodic reviews, liaison with spina bifida units where established, and association with social work departments and their services.

(6) Undergraduate training relative to a spinal paralysis service

DR M D W LOW, Assistant Dean (Planning) deputising for the Executive Dean of the Faculty of Medicine, University of Edinburgh, noted that the basic training of doctors was a curricular matter for the Faculty of Medicine on which all departments were represented and that the curriculum, which was built up on experience gained over the years, was always subject to change to meet new requirements and to keep up with expanding medical knowledge. Spinal paralysis patients because of their varied conditions represented a wide variety of specialties. While lectures were given in the fourth and fifth years, and attachments of 4 and 8 weeks were made to certain highly specialised departments involved in the care of spinal paralysis patients, and a visit was paid to the Spinal Injuries Unit at Edenhall, there was in fact no special instruction or training given in spinal paralysis. Recognition of the need for special undergraduate training would only be possible if the subject was one on which students were examined, and therefore it would be for the heads of departments with a special interest in the subject to put to the Faculty of Medicine any proposals for change in the curriculum.

In discussion, however, it was noted that with the small numbers of spinal paralysis patients which any one doctor in his lifetime might see, it was of doubtful value to make special provision in the curriculum for the teaching of this subject.

(7) Medical care of patients in their own homes

DR E R SEILER, an Edinburgh General Practitioner, observed that the discharge from hospital to home of a severely disabled person could create family stresses. Examples were the care and attention that had to be given to the other children in the case of a severely disabled child; the mental and physical problems in looking after an adolescent or young adult who was maturing both mentally and physically; the loss of income when the 'breadwinner' was disabled; the difficulties when the mother was seriously and permanently 'out of action'; the sexual difficulties and tension; and the almost unmanageable problems which could arise when grandparents could not get out and about. These were some of the problems the family doctor had to wrestle with. Also he had to act as co-ordinator

between the hospital and the community: some patients could attend as many as 6 or 7 different consultants. He had to be aware of the various social supports available, including the names and addresses of associations and organisations, the structural alterations possible in a patient's home, the wheel-chairs and invalid chairs, the holiday homes, the financial assistance available, the home help service etc. With the new concept of general practice work, involving as it did team working with community workers, more of the care and support for the severely disabled would be carried out in the home and an earlier discharge from hospital achieved. It was in small things that the family doctor had to exercise his skill because small things could assume gigantic proportions with the disabled. The installation of a telephone could change a disabled person's whole way of living. Encouragement, understanding and improvisation were always necessary. Special attention needed to be paid to the patient's general, physical and mental health as well as to his disability, and the care of the bowels and bladder constantly observed. Every effort should be made to consider and treat the severely disabled as normal persons with a disability, and they should be encouraged to think of themselves as such. To assist the GP in his care of the disabled person the hospital discharge letter should be fully informative on what had been carried out in hospital; what the patient had been told about his condition; what the relatives had been told; what the patient had been taught to do; and possibly what should be done if something unusual arose.

(8) Social care of the severely disabled

MISS N CHRISTIE, Assistant Director, Social Work Department, Angus County Council, said that the community should be enabled to provide a service appropriately geared to the hospital service: the nature of the links which could be made between the two services were very important. A problem concerning the social worker dealing with a severely disabled person at home was the person's displacement from his role in society. On a patient's return from hospital to home the network of his social life might be greatly altered especially where this had much to do with his employment or active leisure interests. His sense of displacement or isolation was thereby more acute. Relatives often needed help to cope with their feelings of rejection or withdrawal from the patient whose personality could be profoundly affected by his disability. An early introduction to the community's social worker was one way of helping to renew a place for him in his social or family setting - early "introduction" need not suggest early "takeover". The problem existed no less for a child newly born with spina bifida, and prevented from taking his expected place in his family from the first day of life.

Everyone but social workers in particular, could assist self-help groups such as the Spina Bifida Association to flourish and to provide their own unique support and good counselling for their members. These groups had made significant developments: they had challenged the community to take account of the disabled and they had been successful in their challenge.

(9) Hostels and special housing

BRIGADIER SIR BERNARD FERGUSSON Bt, Chairman of a recently formed Scottish Trust for the Physically Disabled, was concerned about people who, while denied a normal life, could live one with just a little help from the community. In New Zealand, where he had been

involved in similar activities, flatlets for the disabled had been built, made to measure, in which the disabled could live a reasonably normal life and be subject only to some nursing supervision. If the Scottish Trust got recognition from the Government as a housing society it could receive substantial government subsidies to either erect custom-built properties or convert old houses into suitable accommodation. It was hoped that such accommodation could be provided throughout Scotland, and that the disabled could be housed in their own areas.

(10) Bio-medical engineering for the severely disabled

DR D C SIMPSON, Director of the Bio-engineering Unit in Edinburgh, observed that when man wanted to go to the moon money was provided and the journey made relatively easy. If, however, there was a problem in getting a severely disabled patient into a wheel-chair this was much more difficult. If the bio-engineer was to assist the severely disabled it was essential that he be brought into consideration of the problems as soon as possible: he could make aids; he might even assist upper limb function; he could assist with transport problems such as the adaptation of wheel-chairs so that they could be transported in motor vehicles, the use of hoists both in hospital and in the patient's own home. Bio-engineering was a relatively new science and other specialists and nursing staff should not expect the bio-engineer to solve all the problems.

(11) An American viewpoint

DR F C WAGNER, Department of Neurosurgery, North-Western University Medical School, Chicago, said that the care of spinal paralysis patients in the USA was inadequate. Whereas there was continuity of care in the United Kingdom this was not so in the USA where there was a tragic gap in both care and the problems of survival. However, the situation was changing and Congress was providing funds to establish injury centres, clinical care for the patients and investigations of basic problems that arose. With regard to the standard of care received by patients in the UK the Americans had a lot to learn.

(12) Summary

PROFESSOR J A SIMPSON, Professor of Neurology, Southern General Hospital, Glasgow, in summarising the papers and discussion said that Scotland had been in at the beginning of providing a spinal paralysis service but unfortunately having once been in the lead it had now been overtaken by other countries. The problems of spinal paralysis may have been brought to light as a result of the pressures of war, but spinal injury was only part of the spinal paralysis problem. Traumatic cases were less than one quarter of the overall problem but because there was inadequate information about the number of persons suffering from spinal paralysis it was most essential to ascertain the future load before any more new building works were started. If anything this was a general criticism concerning current hospital planning when often new buildings were being put in hand without adequate knowledge of the customer demand.

There were obviously design problems, partly because there were no Building Notes and partly because there was a lack of experience of the accommodation requirements for the severely disabled; this

comment was also true of accommodation provided for neurosurgical work. The accumulated experience of those at the conference would be valuable when Scotland came to build the new centres which would be necessary if adequate provision was to be made for the overall care of persons suffering from severe spinal paralysis.

There was clearly a need for a co-ordinator of the spinal paralysis service and yet this might not be possible because of the ill-defined divisional system being introduced in the hospital service. There had been useful comment about the nursing problems involved, making it clear that there was a need to keep nursing teams together as much as possible, and that there were emotional problems for young nurses. It was significant that usually the real cause of death for patients severely disabled by spinal paralysis was a urological one and therefore a major effort should be put into urological care of the severely disabled. There had been useful contributions from persons working outwith hospitals and it was good to hear of the voluntary efforts being made in this field.

Scottish Hospital Centre
January 1972

Accommodation for the mentally defective

Meeting at the Scottish Hospital Centre on Thursday, 24 February 1972.

This conference examined present incidence, trends and provision relating to mental deficiency in Scotland and included a review by a study team from the Scottish Hospital Centre of their recently published report on accommodation for low-grade mentally and physically handicapped patients.

MR G G SAVAGE took the Chair.

Planning projections and the more dependant groups

MR A W M HEGGIE, Principal, Scottish Home and Health Department, spoke from the viewpoint of several years on the administrative side of providing facilities for the mentally handicapped and noted that planning projections implied looking into the future on the provision of facilities which might come into use in the next 10 or 20 years. It was necessary to consider professional opinion and public attitudes but wrong to be too dogmatic about the likely range of future needs partly because professional opinion covered a wide variety of views ranging between extremes and was continually undergoing change. A forthcoming memorandum on services for the mentally handicapped, based on the work of a Scottish Office study group, would shortly be issued.

In considering their brief the study group went back to the Mental Deficiency and Lunacy (Scotland) Act, 1913, since when there had been a remarkable change in policy and attitudes. There had been steady progress in the medical, educational and social knowledge of the problems of mental deficiency and broad policies on how to provide for the mentally handicapped had changed. The 1913 Act envisaged that a large part of the functions of caring for the mentally handicapped would be that of the local authority. Educable defectives were to attend special schools and others, both children and adults, could be cared for in "institutions" certified as suitable by the Board of Control. This trend towards local authority involvement went further when the duty of providing accommodation for defectives was transferred from the Board of Control to local authorities in 1929.

At the end of the second world war it was generally accepted that local authorities had failed to provide the necessary amount of institutional accommodation for the care and treatment of mental defectives. In post-war legislation there was a general re-organisation of health and welfare services under administrative divisions relating to the type of service provided, eg sheltered employment or hospital treatment, rather than according to categories of persons receiving these services, eg "poor persons" or "mental defectives". This completed the split in the provision of services for mental defectives between hospital authorities and local authorities with all the former institutions coming to be regarded as hospitals under the National Health Service (Scotland) Act 1947.

The Mental Health (Scotland) Act 1960 with its extension and clarification of the functions of local health authorities in regard to mental deficiency illustrated how the pendulum was beginning to swing back. The present emphasis on community rather than institutional care for those suffering from mental handicap was not new; it had been government policy since the passing of the 1960 Act. More recently there had been sociological pressure in favour of care in the community coupled with a philosophical concept referred to as 'normalisation'. Mr Heggie noted that, while the historical review had been an interesting exercise, the study group were conscious that present day attitudes and opinions were just as likely to change in the future as they had in the past.

There had been various reports and research exercises on the incidence of mental deficiency. From these it emerged that a total of over 60,000 children and adults might be classified as mentally deficient in Scotland. About 8,500 were in hospital, about 60 in local authority hostels, 120 in hostels provided by voluntary bodies and about 300 children in residential special schools provided by education authorities and voluntary bodies. Approximately 45,000 were "high grade" and most of these and some of the "medium grade" were already living in the community. Children attended day special schools and lived at home and many high grade adults also lived normal lives.

Those actually in need of social services were estimated to be pre-school 1,500, school age 12,000 and adult 16 - 17,000. The main services were special schools and senior occupational centres provided by the education authorities, day care centres, senior training centres and hostels provided by local authorities, and hospital provision by the hospital authorities. In varying degrees all these services required improvement and extension but the main problem for the future concerned the adults and particularly those unable to live at home. Various studies of the number of persons in mental deficiency hospitals, who actually required hospital care as distinct from other forms of residential care, had produced widely different results ranging from estimates of 5% to 50% and over. It was clear, however, that there was little scope for the discharge of existing adult hospital patients to their own homes. For planning purposes therefore the main consideration had to be for those reaching adulthood who in the past would have been admitted to mental deficiency hospitals, and to ensure that a reasonable proportion of these, say 25%, were catered for in hostels or other accommodation provided by local authorities with a view to reducing the intake into mental deficiency hospitals.

The memorandum on services for the mentally handicapped shortly to be issued by the Scottish Home and Health and Education Departments would present local authorities and hospital authorities with a clear plan of development. The main provisions were for substantial increases by local authorities in residential accommodation coupled with training facilities and an acceleration in the rate of improvement of existing hospital facilities, often involving not only upgrading but complete rebuilding. The plan envisaged that the number of mental deficiency beds would be reduced by about a quarter and that eventually all remaining beds would be in new or fully upgraded accommodation and mostly in smaller units situated within reasonable access of visitors and in or near living communities. The local authority target of hostel places would be over 2,000. Already there were clear indications of quickening activity in this field and hostels were being built or being planned by some 13 local authorities. In addition local authorities were considering their

development plans for social work services generally and these were likely to produce further proposals for hostels for the mentally handicapped.

Two general principles in the joint development of hospital and local authority facilities were:- (a) the provision of hostels had to keep in step with the number of senior training centres and other community services being established both to meet the needs of mentally handicapped persons at home, and to ensure that those placed in hostels would not be living largely in idleness; and (b) priority should be given by local authorities to developing comprehensive services for the mentally handicapped who were not already in hospital so as to prevent unnecessary admissions to hospital; hospital beds in an area should not be closed until a corresponding number of hostel beds were available in that area.

It was fully appreciated that numerical targets and particularly the balance between requirements for hospital and local authority facilities contained some speculation and there was always the possibility that the provision of more local authority hostels would reveal a hitherto hidden demand. The validity of the estimates might in time be tested by demonstration schemes in this field but the known deficiencies in the local authority field were so great that it would be many years before any overprovision could become a serious problem. Fundamental to planning services for the mentally handicapped was the need both at policy and executive level for close co-ordination between the hospital and local authorities so that the development of all services proceeded as a combined operation. The Department had already drawn Hospital Boards' attention to the development plans which local authorities were now considering and had invited the Boards to co-operate with local authorities in drawing up these plans.

The rate at which development might take place in the local authority sector depended on the priority which individual authorities accorded to social work expenditure and within that to the development of services for the mentally handicapped. In this respect public attitudes were highly important. Public education by such a medium as television should not only aim to promote a general 'do-good' attitude in the community, but to bring home to the public the facts that catering for large numbers of mentally handicapped in the community would be an expensive burden on the rates and that the presence of multiple small hostels in the community might impinge on everyday life.

DR R C MACGILLIVRAY, Physician Superintendent, Board of Management for Lennox Castle and Associated Hospitals, speaking on the "highly dependent groups" said that on first examination this conjured up the picture of a vegetable unfit to survive except by the ministrations of devoted nurses - a test of nursing morale. This group was sometimes referred to as the severely subnormal or the low grade mental defective, and these idiots and imbeciles approximated to those described as suffering from "profound" or "severe" retardation in the WHO classification. This however also employed the rather misleading term "moderate mental retardation" to describe those with an IQ from 36-51. The incidence of the severely subnormal was a vexed question but it was probable that in every 1,000 people between 2 and 3 would be severely handicapped. Their mental state was in the large majority of cases the result of illness either genetically determined or the result of pathological processes which as a rule occurred in the inter-uterine state, although a small number were caused by severe brain damage post-natally.

an increased incidence of phenylketonuria (PKU) and problems could be confidently anticipated when those cases of PKU who had been successfully treated began to have children.

A completely unknown quantity was the so called "hidden waiting list"; these defectives unknown to the Health Service until they suddenly presented as urgent cases for residential care when a crisis occurred with those who had been caring from them previously. Some provision would have to be made for the mental defectives in their old age when they became enfeebled physically and mentally and required medical and nursing care.

The better control of tuberculosis and the introduction of antibiotics had greatly lowered the death rate among the severely retarded. The never ending tide of admissions went on, the severely retarded continued to pile up and, principally because of the increasing load of custodial cases, mental deficiency hospitals that were already overcrowded were bursting at the seams. Such movement towards ageing had clearly been shown from statistical studies done independently at Lennox Castle and Caterham. Of more practical importance than the mean age was the proportion of elderly patients in residence. It had been shown that the percentage of each sex over the age of 50 years had increased by 11% since 1940 and indeed the resident female population was now older than in the general population and the mean age of the males was higher. If this ageing trend were occurring on a national scale, it would amount to an additional 7,400 patients in this age-range in the UK with an equivalent reduction in available accommodation for younger patients and a need for additional beds. There would similarly be a growing emphasis on geriatric problems in the defective.

Delinquent defectives also constituted a highly dependent group. Delinquency and crime beckoned invitingly to the mentally retarded and Dr MacGillivray had reluctantly come to the conclusion that such an association existed and, although association did not mean a direct cause, it seemed probable that mental deficiency hospitals would be dealing with the character disordered as one of their primary tasks. The amount of psychiatric illness and deviant behaviour in the mentally handicapped was so large that such behaviour should be regarded as an integral part of mental handicap. Much controversy had centred around the question of the extent to which the mental deficiency hospital should care for dangerous, criminal and chronically absconding patients and whether it was proper for a clinical psychiatrist to fulfil the role of doctor, judge, jailer and welfare officer. It might well be appropriate to set up small regional units to be run jointly by Regional Hospital Boards and the Home and Health Department.

On the question of heredity Dr MacGillivray had found that many so called experts had never read the abundant literature showing that when two feeble minded people married and had children every single one was likely to be mentally retarded. The protagonists of "normalisation" now emphasised that the mental defective had a right to a normal sexual life. It was indeed a far cry to the days of the Mental Deficiency Bills of 1912 when sterilisation of defectives was advocated by the Eugenics Society and the Association for the Care of the Feebleminded or to the findings of the "Departmental Committee on Sterilisation" of 1934. The anomalous position had been reached where by virtue of worries on over-population, contraception, sterilisation and abortion would be available for normals on the National Health Service, while the mental defective would be

encouraged to procreate in the community, a policy which would inevitably undermine society, genetically, morally and financially.

DISCUSSION

DR A KUSHLICK, Director of Research in Subnormality, Wessex Regional Hospital Board, in opening the discussion noted that any impression of mental handicap in the population being a vast expanding problem was not the case in the lower age groups. In the mongol groups an increase in survival was evident. About 1 per 1000 of the population lived to adolescence, ie approximately 1/3 of all mongols died before adolescence, many in their first year; the remainder had a higher than average chance of dying before adolescence. The prevalence rate for the severely mentally handicapped young person was 4 to 5 per 5000, ie in a population of 100,000 there would be 100 such children. It was likely that as the overall population grew so would the incidence of mental handicap in children, but at no greater rate than the rest of the population.

Amongst adults the prevalence was increasing. This could be accurately forecast as children grew into adulthood; numbers were affected only marginally by such matters as motor accidents and the general increase in survival rates. Although the numbers of severely dependent physically handicapped being born were offset by the death rate of older members in this group, the largest increase in prevalence was likely to be among the most able of the severely handicapped.

Dr Kushlick considered that the only acceptable type of care was good care which had defined objectives. The mentally handicapped could all be taught good behaviour; their problems had to be defined, dealt with and the results evaluated. Although genetic and biochemical factors were clearly relevant they should not be taken as an excuse for failing to deal constructively with individual problems and achieve optimum solutions. In this respect the administrative concept of management by objectives was relevant where in the planning processes numbers had to be identified, objectives set and adequate facilities and sufficient staff made available to achieve them. In the general discussion the following were the main points to emerge:-

(1) Hostels

Although there was an undoubted need for more hostel provision in the community it was evident that this did not necessarily involve a major run down of hospital beds. An increase in hostel places would relieve hospitals of the need to admit patients not requiring specialist treatment but with other trends affecting incidence etc, a significant reduction in hospital admissions was considered unlikely. Further research into the allocation of places between hospitals and the community was needed and developments, which might have been easier if under one authority, had to be closely integrated at the planning stage. It was noted that in financial terms the cost of maintaining someone in small community units was about double that for hospitalisation in a large unit for mental defectives although the importance of making valid comparisons, eg re staffing levels, was stressed. Even if a reduction in hospital beds were effected, this was not seen as a reduction in the cost of the service which on a per capita basis was expected to increase in line with other developments. It was also suggested that in view of the long

tradition of guardianship in Scotland another look might be taken at this concept which might provide a more acceptable means of fitting some of the mentally handicapped into the community. While there were also advantages in having hostel facilities staffed by qualified nurses it was always essential to have adequate hospital back-up to the hostel situations. Poorly staffed, isolated hostels would make the position worse.

(2) Prevention and treatment

It was suggested that as some 15% of mental handicap could be attributed to a genetic basis, more attention should be given to prevention. Too great an emphasis on custodial activities inhibited hospitals from carrying out to the full their specialised functions. It was possible that not enough thought was being given to hospitals as treatment centres and noted that adequate facilities for treatment and research were not provided for childhood psychoses, delinquent groups and problems such as deafness in relation to mental deficiency.

More emphasis should be placed on the management and training of patients and it was noted that training applied equally to low grade patients. Although it was accepted that there would always be a small proportion with whom nothing in the way of learning could be done, education in varying degrees was usually relevant in those patients with an IQ of 20 and over. It was always more desirable to look for and develop the good points in patients than to linger over their negative aspects.

(3) Morale and staffing levels

Although it was suggested that profoundly physically and mentally handicapped patients might have an adverse effect on staff morale, it was agreed that in practice staff in 'helpless'wards responded to the challenge and usually received considerable uplift from the emotional response in patients; a feeling of 'being wanted' was conducive to good working relationships. Generally it was considered that morale in such areas was good and that only where staffing ratios and facilities were inadequate or where there were anti-hospital expressions, eg by journalists that the enthusiasm of staff deteriorated. Although staffing levels in some units still left much to be desired, the overall tendency was for staffing ratios in hospitals for mental defectives to show an increase. Small units, however, were presented with problems of providing adequate staffing in the main and supporting categories. Carefully selected patient mix in wards was helpful in maintaining morale although types and sizes of available accommodation sometimes made optimum levels of mix difficult to achieve.

(4) Community involvement

A more precise definition of different authorities' responsibilities and functions in the field of mental deficiency was of paramount importance. It was felt that the impending re-organisation of the National Health Service would in many ways be of considerable assistance in identifying the various levels of responsibility. Public opinion should be informed by television and other media of the problems in caring for the various groups involved and information disseminated as to ways in which the general public could help. Every community might not readily accept into its midst a socially errant group and one answer to this situation could be the development of the village-type community in which various levels of care

and facilities were available. Siting of units should give reasonably convenient access to all would-be 'users'. District general hospitals might not be the most suitable environment for such patients but their sites might on geographical grounds be appropriate.

Ward units for the physically and mentally handicapped

The afternoon session was devoted to a presentation of a study of ward units for physically and mentally handicapped patients by a multi-professional team from the Scottish Hospital Centre.

DR A M ANDERSON, Group Medical Superintendent, Board of Management for Edinburgh Northern Hospitals and formerly Medical Officer at the Scottish Hospital Centre, explained the general background of the survey, the findings of which were reported in the Centrepiece publication "Ward units for physically and mentally handicapped".* He noted that there had been a growing awareness of the needs of the long-stay patient and clearer recognition that the "long-stay" patient should enjoy the amenities and facilities of purpose-designed accommodation.

To the administrator the question was one of how to elevate standards of long-stay hospitals in the face of constant pressure to enhance special services for a very limited number of acutely ill patients. It was well known that given a new treatment or a new procedure there was public pressure from an early stage to make this part of the service. There was therefore the basic conflict between investment in the current needs of the community and investment in the future through teaching and research. Some considered that hospital resources invested in the care of long-stay patients represented an unreasonable drain on funds which should be made available for the acute patient. This was no more than a questioning of the level at which primary allocation of funds took place and the requirements of both types of unit deserved fair consideration.

Where patients were accommodated in units, the layouts of which were inappropriate to their basic needs, there were serious problems of upgrading; such schemes were difficult to brief, to plan and to have funded. The Centrepiece publication on ward upgrading** based on the work of a multi-disciplinary study team helped but each unit was an individual case and a degree of compromise was inevitable. The geriatric service had developed significantly with the last decade and a considerable amount of new building had taken place. For this type of patient standard designs had done much to shorten the planning period of a new building project.

Experience had shown the value of studies of the type set out in the team's publication as a basis against which planning principles could be identified and design subsequently developed. It had been decided therefore to apply this method in units for low-grade often physically handicapped and mentally defective patients. Ward units studied included a 30-bed ward for low-grade children, a 52-bed low-grade female adult ward, a children's ward with 30 patients, using day accommodation originally designed for 60, and a 30-bed unit for male low-grade adults.

After extensive press publicity over affairs at a long-stay hospital some unease among the hospital nursing staff was sensed during visits. Again,

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* Ward units for physically and mentally handicapped. Scottish Hospital Centre, 1972. £1.25.

** Upgrading of wards. Scottish Hospital Centre, 1967. £0.62.

Patients reported to be chair or bed-fast were also classified where appropriate as abnormally heavy or having degrees of spasticity or flaccidity giving rise to problems in nursing. There was a total of 651 patients in these categories and over 50% of the children were described as having a degree of spasticity sufficient to cause difficulties.

In summary, the following characteristics of patients seemed to be of importance from a design point of view:-

(a) Children

Almost half were non-ambulant; nearly 9 out of 10 were doubly incontinent by night; three-quarters required help or actual feeding; all required dressing or some help with dressing; only a quarter had any occupation in or outside the ward; one in five were described as aggressive, one in 10 self-destructive and the same number as overactive; and up to a quarter were attention seeking.

(b) Adults

The characteristics were quite different. Almost 9 out of 10 patients were ambulant; less than two-fifths were doubly incontinent by night; about a quarter required help with feeding but between half and three-quarters help with dressing; and almost one-fifth were described as overactive and the same number attention seeking.

MR A N SIMPSON, Architect, Scottish Hospital Centre, illustrated with the help of slides some recent developments in accommodation for the mentally defective and also suggested layouts for ward units arising from the findings and recommendations of the report.

He noted that too frequently upgrading meant only the replacement of outmoded and worn equipment with currently available and not necessarily the most efficient items in the manufacturer's catalogue. These articles were often re-located in precisely the same position without regard to current practice or alternative and possibly more satisfactory functions of the existing ward. Too many wards for mental defectives were of the Nightingale variety and provided neither privacy for the patients, space for bedside nursing, space to dress the patient or store personal possessions; more damaging still, some new wards were being built to these Victorian principles.

Wards without adequate washing provision for patients, without WC provision within easy reach of day spaces; day spaces located so far from the bedfast patient that supervision was impossible, badly chosen or inadequate equipment sparsely provided all combined to make the taxing work of the nursing staff even more difficult. Much could be done by thoughtful upgrading and in this respect Mr Simpson indicated that the most effective upgradings seen by the study team were within EMS hospitals. The open structure facilitated partitioning of bed space and the creation of pleasant day spaces by room dividers in the form of furniture units. With an accurate brief and an architect experienced in the requirements of this field of care, a pleasant atmosphere could readily be obtained and one which not only functioned well but stimulated both patient and nurse.

Prefabricated temporary building had been proposed as a ready solution to the problem: however, the lifetime of these temporary structures had proved far from temporary and the initial design principles involved in this form of programme tended to be rushed. The unit at Coleshill was a case in point. The combined day/dining space was inadequate for wheelchair patients, the combined duty room/nursing station was unsatisfactory and the corridors were too narrow for the movement of patients either individually or in wheelchairs. Although the bed areas were adequate, the sanitary facilities left much to be desired.

Where capital was available for research and with adequate staff/patient ratios anticipated other avenues could be explored with profit. At Westwood House in the Wessex Region a thoughtful conversion of two semi-detached Edwardian villas had resulted in 25-bed children's accommodation of great interest.

Mr Simpson noted the following basis for long-stay accommodation design requirements:

(i) The need to provide adequate privacy for patients within small bed areas;

(ii) Ablution facilities to accommodate the nursing requirement, including a special patient cleansing room - all to be provided with WC and related wash-basin;

(iii) WC and wash-basin provision enclosed for patient privacy and in good functional relation to the day and ward areas;

(iv) dining and day space readily supervisable;

(v) storage facilities properly located;

(vi) and correctly chosen furniture and finishes.

As a result of their studies the survey team considered various forms of ward shape which resulted in the preparation of the two plans detailed in the Centrepiece. These plans represented possible solutions; others could readily be achieved. Principles developing in the course of the study and which carried major design implications included a private patio courtyard supervisable from the day area to form an inherent function of the unit; and that the staff cloakrooms, domestic service room, kitchen and interview/examination room would be shared between two adjoining wards.

The 30-bed ward could be described as dividing approximately into two major component parts:

(a) day supervision: an area comprising dining area, day space, 6-bed room and 2 single bedrooms for bedfast patients adjoining the duty rooms plus the external patio - all readily supervisable from the duty room;

(b) night supervision: the 6-bed room and two single bedrooms adjoining the duty room referred to in (a) above, plus all other bedrooms.

The functional concepts and detail of the plan were explained by Mr Simpson who indicated that, while independently developed, the resulting design was similar in several ways to that recently carried out in other long-stay fields by a multi-disciplinary team from the Scottish Home and Health Department.

Hospital costing

Meeting at the Scottish Hospital Centre on Friday 24 March 1972

The background and present situation relating to hospital costing in Scotland were reviewed at this conference. Although each year a considerable effort was put into the preparation and production of the analyses of hospital ward and departmental running costs, several speakers emphasised the apparent lack of interest taken by authorities in investigating differences in costs between comparable-type units.

PROVOST D McL McINTOSH took the Chair

MR A D ROBERTSON, Principal, Costing Unit, Scottish Home and Health Department, giving the background to the costing arrangements in the Scottish Hospital Service, noted that cost accounting differed from financial accounting primarily in the matter of detail. By definition there were two measurements in the specialised field of cost accounting: the work done, measured in appropriate units of work, and the money spent, represented by the labour, materials and overheads which had gone into the accomplishment of the work. The greater the detail in which the work was measured, the more detailed the analysis of resources required to be. It must be clear however that the complexities of different hospitals treating a variety of patients for a wide range of conditions bore little resemblance to an industrial organisation producing a limited range of identical products and, even in the case of the 'hotel services', there could be anomalies which were not experienced in a business situation. It had long been accepted accounting practice to analyse hospital expenditure under subjective headings, eg salaries, wages, food, staff uniforms etc and in Scotland this type of subjective analysis was made the basis of a straightforward costing system in 1949/50. By providing a figure of fixed expenditure which could be related to beds and a figure for variable expenditure which could be related to the number of patients, it was possible to produce a composite occupied bed cost. For this purpose the hospitals were classified broadly under the major teaching, general, ID etc categories and separate costs produced for each of these groups.

Following publication in 1949 of the results of a Nuffield Provincial Hospitals Trust experiment at the Radcliffe Infirmary, the Minister of Health invited the King's Fund and the Trust to undertake separately complete unit costings of a small number of representative hospitals in England. At the same time the Department of Health for Scotland and the Western Regional Hospital Board asked Glasgow Royal Infirmary to institute an experiment in departmental costing on the same basis of allocation of expenditure and units of cost as were being used by Nuffield; a similar experimental scheme was also introduced at Bangour Hospital. With the publication of the King's Fund and Nuffield reports in late 1952 the Department set up an informal working party to consider these reports and to recommend a costing system and the extent to which it should be introduced. The working party's interim report (1955) concluded that the potential value of a system of departmental costing justified its gradual

development and recommended its introduction into a number of hospitals for further study over a trial period. It was also recommended that departmental costs should be produced on a prime cost basis rather than on a total basis as adopted in England. The object of this was, in respect of the department being costed, to include only expenditure which was directly the responsibility of and under the control of the head of the department concerned thus eliminating costs over which he had no control. This procedure simplified immensely the administrative effort called for and reduced the cost of the exercise itself to relatively negligible dimensions.

A start was made in 1954/55 to change the layout of the accounts in anticipation of the introduction of departmental costing. The semi-variable heading was dropped and a subjective analysis which could readily be used for departmental costing substituted. This was limited to the two remaining headings - fixed and variable, but now termed standing charges and running charges. These were still intended to enable a cost per patient week and per bed week respectively to be produced and as before could be combined to give a composite occupied bed cost. Additional costs were added to the list in subsequent years including - weekly costs per person fed, straight cost per patient/week, straight cost per staff bed/week, average cost of drugs and dressings per patient discharged, cost of vacant beds per week and in-patient costs per case.

By 1957/58 figures for 19 hospitals were published for the first time and in the following year this rose to 45. The composite occupied bed cost was dropped together with the concept of standing and running charges which gave way to the split into salaries and wages, supplies and services and materials and expenses analysis. For 1959/60 it was decided that the departmental costing system should be introduced generally and hospital costing returns on this basis were published for the first time under the general classifications - acute teaching, acute non-teaching etc. This publication supplemented the "Analysis of running costs of Scottish hospitals" which continued to publish the net cost per patient week derived as before from an analysis of expenditure based on the subjective headings.

Following criticism that the broad 16 group general classification of hospitals was too wide to permit valid inter-hospital comparisons, the SAMOs of the Scottish Regional Hospital Boards considered the question of classification and produced a secondary grouping into 44 categories in each of which the hospitals provided broadly similar treatment facilities. This was introduced to the 1963/64 "Analysis of running costs of Scottish hospitals" as a supplementary classification. This year also saw the implementation of the recommendation by the working party that hospital running costs be analysed by departments, instead of subjectively, and fully integrated with the financial accounts.

Initially the number of hospitals for which departmental costs were published amounted to some 230 covering 9/10 of the total hospital revenue expenditure for Scotland. This figure fell in subsequent years to around 170 due to the omission of some small hospitals but the proportion of hospital revenue expenditure covered remained at about 9/10 of the total. Overall costs per patient week continued to be produced for all hospitals.

In 1967 a committee was established "to review the whole field of hospital costing" and within this remit the committee considered the nature and extent of the information to be produced; the purposes for

which the information should be used; and the responsibility for following up the results of costing. The principal recommendations of this committee were that the analysis of running costs of Scottish hospitals should be combined with the departmental costing returns; and that for departments where the unit of cost in use was considered to be unsatisfactory costing should be abandoned and the expenditure included in the non-costed expenditure tables. These included most of the ancillary treatment departments - portering, psychiatric patients' allowances and general services. The committee significantly noted that the main purpose of costing was to encourage effective management, ie the measurement of performance in terms of expenditure which over a wide field was the only common factor. With regard to responsibility this primarily should rest at the level at which the expenditure arises which might either be Regional Board or Board of Management. In the costing publication for the year ended 31 March 1969 the 16 group classification was finally abandoned and the 44 group functional classification substituted.

Mr Robertson noted that costs were intended to be used for management purposes initially by heads of departments and were indicators to direct attention to where management efforts might best be applied. No organisation was perfect but nonetheless management constantly strove after perfection and the primary tool was information and the primary material was money. Various criticisms were levelled at hospital costing methods and publications and although some of these might be valid, it was necessary to make the best use of what was available at the present time. It had been said that the reason why costs were not used was because they were no good but was it not just possible that the reverse was true and that where the costs were no good it was because they were not used.

MR H J PILLING, Treasurer, Eastern Regional Hospital Board, described the methods of collecting data required for costing purposes and their method of preparation and distribution to hospital authorities. He noted that the actual process of costing, particularly with computerised services, was a very small financial commitment since much of the data required was already collected by hospital authorities for other purposes. The potential benefits to management were therefore relatively far in excess of the actual effort required to prepare the costing returns. The continuous collection of statistics was undertaken from existing records such as HS10 returns and payroll records and from these a special data input form showing expenditure and statistics was prepared for the computer. An analysis and tabulation of the data was assembled by the computer, classified under the appropriate groups and then printed and distributed to hospital authorities. Separate sheets were issued for departmental heads. As a result of the published data the basic management implications were the principal concern of the Boards of Management although Mr Pilling noted that, in his view, Regional Hospital Boards did on occasion get involved more than was necessary. Questions of variations, excesses and low costs required investigation although it was desirable that the monitoring of statistics as they were collected should be a continuing process to avoid any authority being caught unawares by the publication of extreme figures. Cost accounts, being broadly based and only involved with direct expenditure, had to be regarded superficially and therefore examination in depth of certain situations was necessary. The final published booklet could only be regarded as a pointer to look at certain areas of activity and in this connection it was very helpful if 'norms' relating to levels of cost and activity could be defined. For

instance in six major teaching hospitals a 6% difference in the cost per in-patient week could be considered reasonable and justified a valid comparison,while large variations in the ratios of out-patient attendances to in-patients (eg 13:1 to 22:1) should give rise to investigation. Again, local authority rates per occupied bed varied from £25 per year at Dundee Royal Infirmary to £71 in a Glasgow teaching hospital to a proposed £470 per year at Ninewells Hospital. Operating theatre costs similarly showed wide variations and although no costing of physiotherapy departments was undertaken the average treatments per patient varied from 6 to 40 in hospitals of a similar type. It was evident therefore that, although explanations might be readily available, questions should be posed as to the reasons for such wide disparity in the figures collected. For instance in the last example, difficulties in the recruitment of physiotherapists might well be a significant factor.

Mr Pilling then outlined various lines of enquiry which had been followed up as a result of apparently anomolous costing figures. In a comparison of the catering services within two units it had been shown that, due to an inadequate and inflexible system of ordering supplies and a failure to recoup money from staff, a loss to the service in one hospital of £11,000 had been incurred. On the other hand large variations in costs of hospitals providing a similar service could be simply explained by different methods of accounting causing distortion to the figures. Mistakes in the feed in of data were also evident giving rise to patently wrong costs for certain services. Although it was possible that the occupancy of nurses' homes could vary from 5 to 100% throughout the country it was most unlikely that as recorded the cost per occupied bed for cleaning a nurses home in one situation should be £24 per week. Such figures tended to bring the final published returns into disrepute.

Mr Pilling considered that the regular publication of cost accounts by hospital authorities aroused a general awareness among personnel that an increasing interest was being taken by the authorities of staff activities on a management audit basis, and this could only lead to increased efficiency within the Service. Comparisons between units and departments were also useful when it came to considering revenue developments within each Board's programme. High or low costs in this direction should indicate the level of service provided compared with the national average. Again in the case of new capital schemes amounts to be set aside for the running of new projects had to be based empirically on the cost of running existing similar units plus an appropriate percentage.

One criticism of the costing system which had been made was that the unit costs did not take into account the actual level of services provided to patients. For instance, it would give a better guidance to establishment performance to show the number of man hours provided by junior nursing and medical staff to patients rather than providing a cost on a weekly basis. Greater assessment of the throughput of ancillary departments, eg x-ray, physiotherapy and in particular laboratories was desirable, and large variations in units of cost such as the space per bed varying from 400 to 700 to 1350 sq ft per bed in teaching hospitals made comparisons meaningless.

Greater emphasis should be placed on the need for ensuring an accurate unit of measurement. It was likely that in some instances, authorised bed establishments were not kept up to date and to improve the measure of comparability between units some recognition of staff sickness and overtime within the returns would be helpful. In the present situation it was possible to manipulate figures to suit individual situations leading

to the production of figures of doubtful authenticity. It was essential that the present incentive to weight units to reduce costs should be removed and more importance should be placed on the examination of functions within each hospital department.

DR J F KIRK, Group Medical Superintendent, Board of Management for Dumfries and Galloway Hospitals, suggested that the medical profession took little or no interest in hospital comparative costing and it seemed clear that the existing classification did not meet all the requirements expected from it. In particular it did not allow a realistic comparison of medical performance between one hospital and another let alone between the same specialty in various hospitals and the SAMO's functional classification into 44 hospital groups unfortunately did not contribute significantly to this comparability problem. In fairness however, it had to be pointed out that this classification was drawn up as a guide to the content of hospitals within groups and not as a means of comparing performance. To illustrate the wide variations existing within the same specialty groups, he noted for neurosurgery that the cost per case ranged from £20 to £60 and for intensive care the duration of stay in two hospitals being 10 and 22 days respectively. Again in the case of operating theatres the time for costing purposes was taken as the entry of the first patient to the departure of the last patient and this represented direct pay only taking no account of preparatory work before the session commenced or clearing afterwards. This did not therefore convey any relationship between available theatre accommodation and number of beds. There seemed little doubt that further detailed consideration was required if a system was to be devised which would satisfy the requirements of necessary costing and functional activity.

From the medical aspect Dr Kirk suggested some considerations which might merit further detailed discussion. If costing was to be worthwhile the purposes for which it was required had to be clearly defined and in this respect various considerations pertained:-

(i) in the UK the term medical audit was concerned with the evaluation of patient care activities, better use of resources and the development of a more critical approach by a clinician to his own activities and perhaps to those of his colleagues. Comparability must be on a diagnostic group basis and not cover broad specialty groups. The objective arising from these considerations might be the provision of better value for a fixed budget in the field of patient care through efficient clinical management;

(ii) the main difficulty would be the establishment of a 'standard norm' of good practice for a particular specialty in a particular hospital. If this could be achieved and be generally accepted, it must be clearly shown how this 'standard' had been generally agreed, developed and accepted on a Scottish basis. Such 'norms' had to be reviewed regularly in the light of changing practice;

(iii) linked with medical audit and 'norms' of practice there must be an effective and reliable system of data collection before suitable information could be supplied for medical audit and/or cost comparison purposes. An important feature would clearly be the presentation of the necessary information to hospitals in an easily digestible form;

(iv) to be realistic, out-patient attendances should be separated by casualties from elective consultations, by new patients from return patients, and the sub-division into separate specialties or broad clinical divisions would be a matter for agreement depending on the objective. It had to be borne in mind however that changing trends in the pattern of treatment had to be allowed for by creating a more flexible costing system.

The medical profession was no different from any other profession in that incentive was usually appreciated particularly if it came in the form of a bonus. Accordingly in the course of time Dr Kirk hoped that, whatever costing system was adopted in the future, allowance would be made for certain 'divisions' to have a specific budget to which they could work.

In conclusion Dr Kirk noted that although small hospitals were not included in the analysis of running costs of hospitals it was essential that they should be costed at Board of Management level in the same way as for larger units. The present costing publications did not indicate total expenditure in relation to total allocation for any year but it might be worth considering the introduction of total specialty costing although the prospect of increased general practitioner participation in the Hospital Service might inhibit against accurate costs being arrived at in this connection. Again, although it was difficult to arrive at a realistic unit of cost in respect of a number of departments such as x-ray and physiotherapy, it would not be possible to cost accurately the hospital treatment component or any particular diagnostic group or group of conditions until the para-medical and ancillary departments were fully covered. It was noted that in some hospitals doctors had taken an interest in costing particularly of "drugs and dressings" through local prescribing committees. If it was considered, however, that they should take a more active part in financial matters and if clinical management within divisional organisations was to be realistic in the future, then Boards would require to make a positive approach towards educating medical staff in the virtues, complexities and pitfalls of hospital costing.

MISS O HULME, Principal Nursing Officer, Royal Hospital for Sick Children, Glasgow, spoke of the nurses' interest in hospital costing. This she felt was very much restricted to nurses who had reached a fairly senior position in their profession, nurses in general at ward and departmental level regarding financial matters probably only in terms of the number of bedpans or receiving sets which they used. She considered that if the figures were to have any impact on her profession at all they had to be presented in a readable and easily understandable form not requiring great difficulty in interpretation or assuming a considerable amount of background knowledge on the part of the reader. Only if the data were presented in a simple but comprehensive manner would it be possible for nursing administration to understand the implications of the material and thereby encourage greater efficiency within hospitals. Inaccuracies in the data provided and apparent large variations in the costs of what should be comparable services made acceptance of the data difficult in some situations but Miss Hulme considered that nursing staff were now regarding costing as a useful tool of management and one which should play an increasing role in the development and improvement of nursing services at hospital and departmental level.

Although variations in the costs did exist between various children's hospitals she considered that it would be possible to identify a 'norm' of good practice for the performance of various services within these

units and that from this it would be quite useful to compare the various performances of different units with a view to arriving at an optimum level of care for the money available. If this could be achieved for children's hospitals Miss Hulme considered that it should also be the case in other specialties and if greater use were made by the appropriate nursing staff of the costing material made available a greater understanding of the overall commitment of the Service would be achieved.

MR D W BLACKWOOD, Chief Pharmacist, Stobhill Hospital, Glasgow, said that while the pharmacist could argue that his obligation was to provide drugs for patients at the right time in the best condition and form possible, as well as to supply surgical dressings and surgical and dispensing sundries, very few pharmacists in charge of a department would negate their responsibility to be concerned in the cost and best value of items purchased.

Mr Blackwood observed that many drugs were purchased through national contracts negotiated by the Scottish Home and Health Department and, given that there was no great amount of overbuying, he considered that this aspect of spending ought to remain constant except for increased prices. Costs however kept on rising because there was a continual range of new and expensive drugs being made available and in demand. Dressings likewise were the subject of national contracts but there was an ever increasing interest in pre-packed and pre-sterilised items which inevitably were dearer than comparable packs prepared in hospital at one time and later sterilised as required. In the case of surgical and dispensing sundries an 'explosion' had taken place. Instruments had increased in type and number with the emphasis on their being pre-sterilised and disposable and in this ever growing field rationalisation and considered assessment was of the utmost importance. In this context hospital costing in terms of drugs, dressings and sundries ought to be the subject of objective examination in terms of bringing relative values home to the medical and nursing user. In 10 years at Stobhill Hospital the expenditure had doubled for drugs and dressings and nearly quadrupled for surgical and dispensing sundries. A statement of expenditure on medical supplies for selected hospitals for a recent 9 month period indicated a significant increase in all the major hospitals in Glasgow. Even after due consideration had been taken of price increases, reduction in length of patient's stay in hospital and newer and more sophisticated developments in therapy and procedures, one still had to ask the question whether in basic terms there was real value for money. Although it had been noted by medical staff that the production of comparative cost data on certain drugs in a restricted range would be useful, an attempt in the Western Region to do just this with considerable effort had proved of little or no interest to medical and nursing staff except for making petty comparison of one unit against another in a manner which was never intended.

The 1968 report of the Committee on Hospital Costing recommended that for wards, out-patient departments and theatres statistical performance standards should replace costing information. Further the existing costing information for pharmacies should be retained meantime but out-patient expenditure on drugs should be split as between RPB forms and direct issues from pharmacies or direct purchases. At Stobhill, by discouraging the use of the RBP forms to patients attending clinics the cost has slumped dramatically.

At Stobhill Hospital, stock control was computerised but as a result of a recent audit examination, the system had shown certain problems. For instance the numbering differing only by the last digit from item to item meant that an error in this digit could give a false return for two items; and the specialised nature of drug names approved and/or proprietary was a source of error which could give rise to confusion in the minds of the clerkess preparing the information for the computer. For the system to be absolutely realistic the supervisory staff required included a full-time pharmacist in stores control, being the only person fully conversant with the multiplicity and technicalities of drug terms, and an audit clerk supervising and examining the computer returns each month for errors. The question then to be answered was whether the cost of providing a near perfect stock control financial return for all or selected items was merited. As a taxpayer the pharmacist had to subscribe to the view that the Health Service represented a vast financial area which must keep accounts not least in relation to drugs. On the other hand he must equate in his mind how costly and time consuming this process could become and how best the pharmacist's expert information in the cost of drugs and dressings should be disseminated in a meaningful and rewarding manner to the principal consumers, the medical and nursing staff.

MR G G SAVAGE, Group Secretary and Treasurer, Board of Management for the Royal Infirmary of Edinburgh and Associated Hospitals, considered that there was within the Hospital Service a tendency to regard costing merely as a financial exercise. It was linked in the minds of many categories of staff with other terms such as work study and medical audit which implied a critical examination of activities and were frequently rejected out of hand by staff who were traditionally reluctant to acknowledge any benefits which might be obtained by the introduction of such techniques into hospitals. Any minor imperfections in the implementation of the techniques applied were frequently accepted as an excuse for rejection of the concepts themselves and it was often maintained that activities based on individual clinical judgements could not be compared. Although staff at Board of Management level usually regarded the completion of routine accounting returns as a dull task which had to be completed by a certain time, it was surely the responsibility of the Hospital Service, being by far the largest spender of the National Health Service, to look carefully at the level of expenditure and associated costing returns. The new basis of allocations would go some considerable way to level out any existing unevenness between groups of hospitals and Boards should examine critically their own units to ensure the best use of resources.

Although somewhat removed from the commercial world, emphasis should be increasingly placed on the end product, ie the patient and the cost of care to the patient should be regarded as of primary importance. Treatment costs were as relevant as 'hotel' costs and clinical staff should be prepared to look at this problem in the same way as such matters as the standardisation of medical records and out-patient department waiting times. Full value for money did not mean that the final product, the discharged patient, should be produced at the lowest possible cost but rather that to achieve it there was a responsibility on hospital officers to examine their costs.

Costing might go some way to identify problems and even point the way to desirable capital developments but under present arrangements not every Board of Management was equipped to cost on a medical division basis. Management accounting systems especially for divisional purposes, should be based on depth of analyses at all times. Target costs were already

accepted in certain functions of the Service and, since budgets should be linked to performance, which was a primary function of financial management, it was desirable as with establishments, to agree standard costs in other fields and then targets. Effective central control was necessary over the money spent by the Service and also to ensure maximum value was obtained from it.

An efficient costing system should be simple and straightforward in design and presentation so that the cost was low and the information provided useful and easily understood; should provide up to date information for those responsible for initiating expenditure; and should provide a yardstick for comparing the costs of similar and dissimilar units and indicating lines of enquiry where costs were significantly different in apparently comparable situations. Although the cost data was being published much sooner than in previous years, the need to have up-to-date information was particularly important and the production of data which would enable comparisons between Scottish and English hospitals to be made was highly desirable. National performance standards might indeed still be a long way off realisation but hospital staff should be steered away from thinking solely in terms of last year's budget plus price increases and development monies.

In conclusion Mr Savage noted that there would be advantage in nominating a multi-disciplinary group to enquire into situations in hospitals which might seem to require investigation on the basis of the cost information made available. As envisaged in the 1953 working party remit this might go some way to providing a costing system of permanent value to hospital administrators.

DISCUSSION

In the course of two discussion sessions the following were the main points to emerge:-

(1) Value and use of costing

While there was general agreement that costing procedures were worthwhile, it was considered that many people in the Service took little interest in how the figures were produced or could be used as a tool of management. The effectiveness and value of the figures produced depended on the willingness of the managers to use them and more stress on the value of their use internally in the Service should be made. Although some took a genuine interest in value for money, medical staff in particular seemed unwilling to take an interest in the costing material and it was suggested that the introduction of divisions might go some way to improving the feedback of such information. In general more emphasis should be placed on cost consciousness as applied to the running of hospital departments.

(2) Patient care

It was noted that there was no indication in the published material on costs as to the level of patient care given in individual units and it was suggested that in many instances the cost ascribed to various services bore little relation to the standard of the services provided. Some hospitals with apparently high cost figures could

be said to be providing in comparison a low standard of patient care and there was a definite need to relate cost figures to the quality of service provided. In this connection one hospital was cited as being £3 below the national average per patient week for the last 25 years and there was little doubt that the provision of this additional sum would go some considerable way to improving the level of patient care within this particular hospital.

(3) Production and distribution of material

Some criticism of the delay in the production of the cost material was made. It was noted however that every effort was made to issue the data as quickly as possible although this could only be done when all the Scottish material had been submitted to the computer centre for analysis. Circulation of the various publications also presented problems and depended to a large extent on the levels of communications within individual Boards of Management. It was noted however that 150 copies of individual departmental costs were circulated to enable the material relating to one particular department to be sent personally via the Board to the appropriate departmental manager. Again although some delay in the production of the material was inevitable it was stressed that the continuous monitoring of financial and statistical material throughout each year was essential to avoid any unusual situation accumulating and presenting itself in the published data over an extended period. Some improvements in the form of presentation leading to a more readily understandable publication might go some way to improving communications in this field although the view was expressed that, if officers knew their hospitals well, they could quite easily identify areas requiring investigation without having them signposted by the costing material. It was generally agreed, however, that there were decided advantages in the data being made available to the appropriate departmental manager and that Boards should be encouraged to see that this took place.

(4) Laundry services

Some difficulties were experienced in the interpretation of laundry costs although it was noted that the imminent change of unit of measurement from pieces to pounds per dry weight would improve the situation. Production per operator on duty, ie not including van drivers or those on sick leave, would also be a more valuable costing unit, and identifying disposables separately would make the figures more realistic. It was appreciated however there were innumerable variables in the laundry situation relating to product mix, ie types of linen and levels of soiling, labour catchment areas, machinery and its maintenance, use of disposables and variability in quality of article, and it might be more satisfactory for each laundry to be assessed individually on the basis of these factors and then compared rather than costed under the present system. There were invariably good reasons for high costs in certain laundry situations and it was suggested that present methods of comparison between different units did not give a true picture of the actual situation.

(5) Domestic services

It was remarked that domestic departments were in particular cost conscious and seemed frequently to be the first target when questions

of financial savings arose. Considerable efforts were invariably made to ensure the efficient and economical running of these departments and it was noted that hospitals or groups of hospitals who employed domestic superintendents were usually those who provided their domestic services at the most economical level.

(6) Pharmaceutical services

It was suggested that rather than drugs being costed on the basis of issues to hospital departments from the pharmacy, ie a system which did not take account of overstorage in the ward areas, the data might be collected via drug prescription forms. It was observed however that this experiment had been tried in one Group already and the general feeling was that the work involved did not justify the outcome. It was most desirable that levels of clinical freedom should not be encroached upon and in any event the real cost of pharmaceutical services lay in other fields than drugs. More value would probably be achieved by making efforts to reduce the range of drugs used within hospitals and encouraging optimum use of supplies and reducing wastage.

(7) Comparison and evaluation of costs

It was stressed that costing returns were produced to enable departmental managers to compare their individual unit's performance with others with a view to improving the quality and efficiency of the service provided. The actual evaluation of performance of individual units however was considered not an accountancy exercise which dealt in finite terms but rather a more subjective approach was required to enable the many variable factors to be assessed. Comparisons with other units could lead to the promotion of wrong staff attitudes and it might be that too much emphasis was placed on such comparisons. Absolute standards of performance were difficult to define, could vary from region to region and hospital to hospital but however sophisticated the system of costing became it would be of little value if management did not take regard to the resulting product. It was agreed that more information on the interpretation of the presented data should be made available to staff possibly during their period of training although in the case of medical staff it was felt that this could only be achieved on an informal basis for undergraduates and might be pursued at post-graduate level. There might be advantages in a small multi-professional team being established to investigate any apparent anomolies arising from the costs of hospital wards and departments and, although there was a tendency at present to concentrate activities on comparatively small items, an overall view of certain large factors in the Service, eg staffing, might be appropriate. Such a team could by correspondence undertake several enquiries at the same time and could provide an incentive for improvements in the Service by discussions and spot checks at hospital level.

(8) Level of costs

Although it was appreciated that low costs in certain situations were merely a hangover from the situation existing before the inception of the National Health Service, there could often be a legitimate explanation in other situations and indeed they could often indicate a hospital working to a high degree of efficiency. It was noted that the higher cost hospitals in 1948 were generally

still the same at the present time although in comparative terms it was appreciated that the differences between the various classes of hospital were much reduced. Considerable variations existed in the cost of running of various departments but many factors were relevant not least the levels of recruitment and part-time staff.

(9) Cost of costing

The present system of hospital costing with much of the data required being collected from existing statistical returns was inexpensive. Industry it was noted spent vast sums of money on cost accounts and the view was expressed that it might be more appropriate for a much more sophisticated system of costing to be introduced into the Hospital Service which would prove in the long run much more advantageous and lead to substantial savings in running costs. Even under the existing inexpensive arrangements it was mentioned that value for money was not achieved from the information produced and in some quarters the attitude existed that expenditure on costing was only taking place to the deprivation of facilities for patients.

(10) Accuracy of data

Considerable emphasis was placed on the need to ensure accuracy in the data being used for the purpose of costing. It was accepted that in some situations inaccuracies did exist but even where this was the case, and the inaccuracies were consistent, valid and useful comparisons of a hospital department could be carried out between different periods of time. Concentration in a particular year on certain aspects of costs rather than looking at the overall picture might be one method of identifying the problems more realistically and increasing the accuracy of the material produced. Mistakes could genuinely arise at hospital level in the routine collection of statistical material and it was not unknown for different categories of staff to be costed under different heads between hospitals. The overriding need was to ensure that in looking at the figures one was genuinely comparing like with like and more detailed and accurate information was required to ensure true and not 'fictitious' costs being identified for each situation.

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